Open Services for Open Systems

SQL Solutions, Inc.

Information Systems for the 1990's

A fundamental change in corporate computing is under way that promises to deliver seamless access to data and processing on multiple processors linked by a heterogeneous network. We are all on the frontier of a new era in business in which information systems are being used in new ways to gain competitive advantage, to innovate products and services and to improve quality. Even the smallest companies are beyond the provincial one-vendor mainframe shops of ten years ago—using networks, hardware and software from multiple vendors, they've developed "cosmopolitan architectures" that are impressive in their heterogeneity and wealth of information.

In part, the beginning of this transformation, allowing on-line access to a broad base of information serving all levels of an organization, has been facilitated by technological breakthroughs in physical connectivity, which integrate hardware, operating systems, databases and communication software. Although within our grasp, full utilization of the technology sometimes seems elusive. Transforming physically integrated data into logically integrated information—a true corporate asset—requires a high-level corporate commitment to data administration and a methodological approach to strategic information planning, systems design and software development.

As the most experienced and knowledgeable consultants in the RDBMS-based environment, SQL Solutions can help you accomplish these tasks.

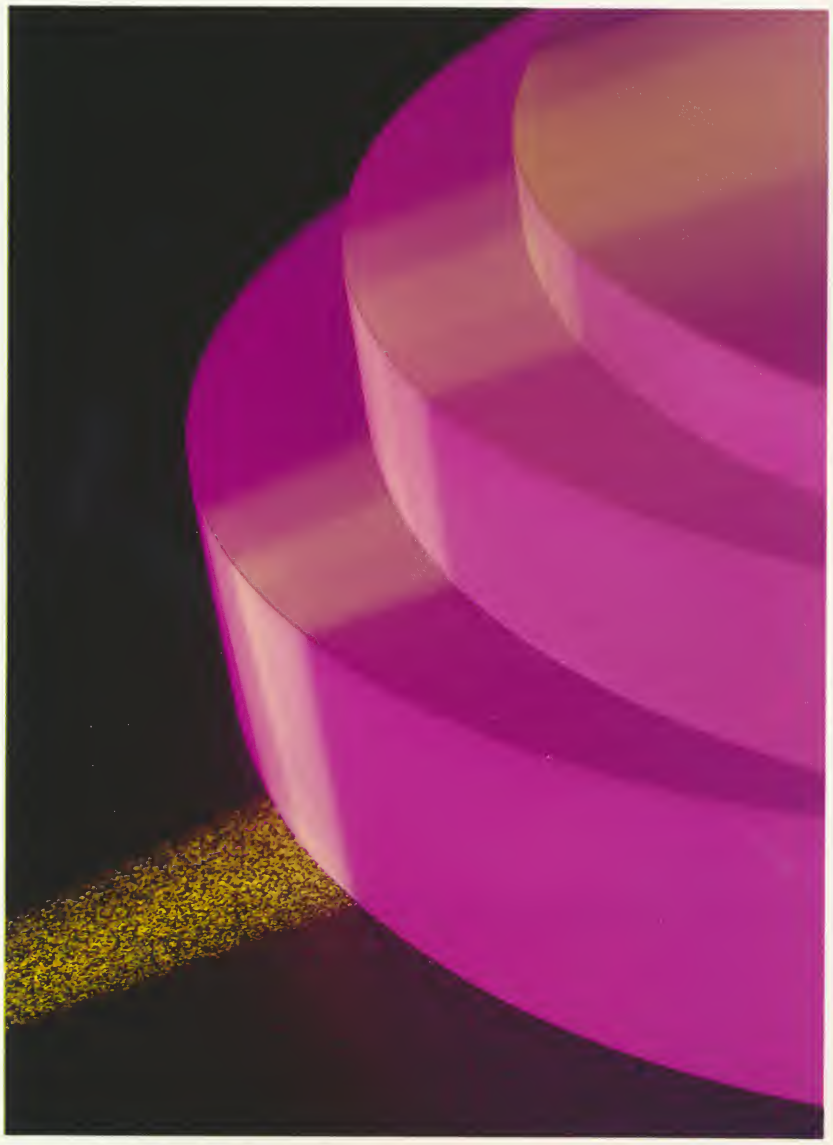
"Systems today have shifted from provincial one-vendor mainframe configurations to cosmopolitan, heterogeneous networked architectures."

SQL Solutions, Inc.

SQL Solutions, Inc. was established in 1986 as a professional services and software development firm specializing in distributed, interoperable SQL-based systems. First and foremost, we are committed to assisting our clients in solving the complex issues associated with designing and implementing RDBMS-based applications in multi-application, multi-hardware and distributed database environments. Our years of experience with relational systems design and implementation, our RDBMS and SQL seminars, our understanding of a wide range of communication protocols and network configurations and our offerings of RDBMS productivity tools for SQL developers and DBAs are strong evidence of the depth and breadth of our capabilities.

We can help you at every phase. SQL Solutions' professional services span the entire life cycle of RDBMS-based systems development. Frequently our engagements include strategic information resource planning activities such as corporate business modeling, proposed systems modeling and transition planning. We assist our clients in the earliest systems planning stages to determine their information requirements, then choose the hardware, software and network configuration that would best satisfy their requirements.

At the application level, we deliver the data and functionality that our clients' businesses require. We prepare logical designs and detailed physical designs optimized for a particular RDBMS. We may use prototypes for discovery and user interface specification. Finally, we implement our designs, test and install them and often provide transition and production support in the form of user training, operator training, data conversion, performance tuning, storage capacity management and security management. We are committed to transferring skills, knowledge and technology to our clients at each juncture of the systems development life cycle.



"SQL Solutions' professional services span the entire life cycle of RDBMS-based systems development."

Methodology: A Proven Framework

"SQL Solutions' methodology facilitates delivering accurate and current information to assist your firm in managing growth, improving profitability and strengthening your competitive advantage."

At SQL Solutions we have seen how effective systems can improve profitability, quality and productivity in your business. We believe that effective systems begin with a thorough understanding of their context in your business and a methodological approach to transforming that understanding into workable plans and reliable systems.

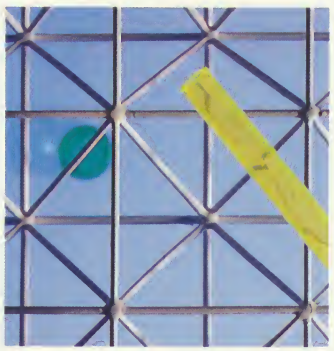
Our methodology is simply the body of design methods, analytical techniques, tools and structured procedures we use to manage the application of information technology in a business context. More than a loose collection of CASE tools and structured diagramming techniques, our methodology is a proven framework developed in the field, identifying what you do and when, how and why you do it. Our approach can be divided into two major parts: information resource planning (IRP) and systems development life cycle (SDLC).

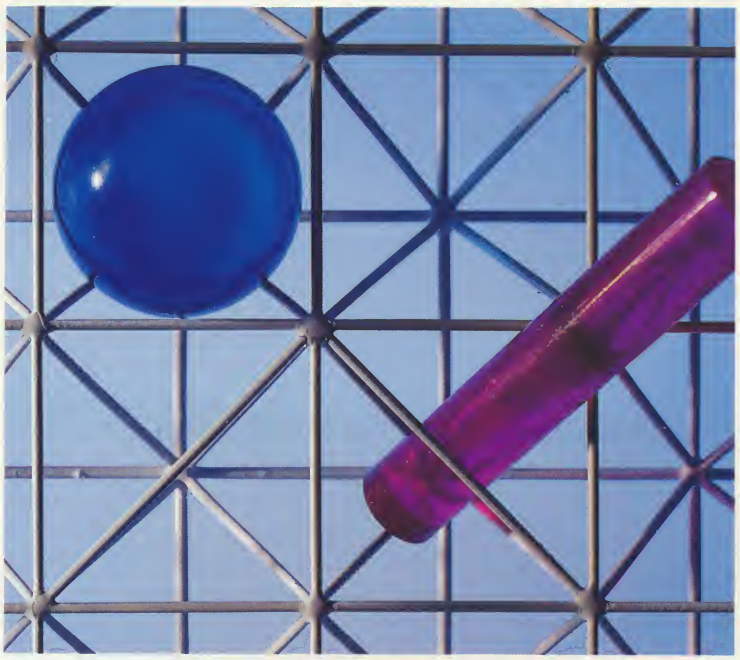
You benefit; and so do your customers. Our methodology is sufficiently rigorous and complete to coordinate and structure the entire spectrum of IS activities from strategic information resource planning, through application development, to database administration and maintenance. But it's also flexible: as an international consultancy in every major industry, we recognize the uniqueness of each organization, its current practices and resources and its specific goals. We customize our methodology to meet your organization's needs or to complement your own approach to analysis, design and development. We can also help you develop or improve your own methodological framework, structuring the process of software development and technology management in your organization.

Quality is the goal. The primary benefit of developing and maintaining an organiza-

tional methodology is quality. Understanding the process of software development gives management more control, limits risk and yields better results. Another major benefit is improved communication and organizational coordination, ensuring that everyone on a team is working together.

Our consultants take advantage of a complete suite of productivity tools, making our analysis, design and development efficient as well as effective. The SQL Solutions methodology, together with experienced personnel of the highest caliber and rigorous project management skills, has earned us an outstanding reputation as business and systems analysts, designers and software developers.





Business Analysis, Business Modeling and Information Requirements Analysis

Effective information systems are based on a solid understanding of the business they must support. Therefore, our methodology begins with the process of analyzing your business and formally defining a prioritized list of business objectives and strategies. Using this list, together with structured techniques and CASE tools, we interview management and construct detailed models that represent information structures and information flows essential to the business.

Business drives technology planning. It is no small undertaking to model an organization. Particularly in large companies, contradictory business objectives and strategies frequently exist. Without clear business objectives, modeling activities lack direction, focus and scope. SQL Solutions can help you get and sustain executive commitment at the highest level—essential to successfully define the essence of a business, to identify strategic business units and to articulate the direction and path the organization intends to follow. Only within such a framework can the analyst model business functions, information flow and corporate information structures.

Our information requirements analysis, information systems planning and all subsequent development activities are directly or indirectly based on these models.

"Effective information systems are based on a solid understanding of the business they must support."

Information Systems Planning

The information systems planning services we provide can be divided into three broad categories: the evaluation of existing systems, the development of a proposed systems model and the definition of a detailed transition plan.

Where are you today? Planning for the future begins with understanding the present. Future systems are designed in the context of existing systems — with an emphasis on opportunities for improvement based on business strategies and objectives. SQL Solutions can model and evaluate your entire portfolio of production systems.

Where do you want to go? The gap between existing systems and information requirements becomes the basis for constructing an organization-wide long-term solution: the Proposed Systems Model. Consisting of corporate data models, proposed process models and a proposed physical architecture, a Proposed Systems Model is a high-level specification for future hardware, network, system software and application software architecture.

SQL Solutions can help you develop proposed systems models and systems strategies. We've developed hardware, systems software and application software selection criteria for our clients and have also evaluated alternative packages, operating systems and hardware and network strategies. We can help you develop an organization-wide information architecture — a well-defined and attainable goal — that satisfies business needs within organizational constraints such as time, budgets, existing systems and staff.

"The gap between existing systems and information requirements becomes the basis for constructing your organization-wide long-term solution: the Proposed Systems Model."

How will you get there?
Transition planning is based on the difference between existing and proposed systems and a realistic assessment of priorities, resources and constraints within an IS organization. A transition plan consists of a series of projects that specify how you will incrementally convert to the proposed systems. SQL Solutions can help you identify and assess priorities, project feasibility, scheduling and costing estimates.

Transition planning in a dynamic organization requires both flexibility and a well-defined objective. Within the framework of a comprehensive and robust long-term plan, SQL Solutions can help you respond to satisfy short-term business requirements. We can help you manage trade-offs, ensuring that each iteration of the short-term development cycle brings you closer to your long-term goal.

Application and Systems Design and Development

Project Management

Data and Process Modeling

Logical and Physical Design

Design Reviews

Coding and Testing

Data Conversion

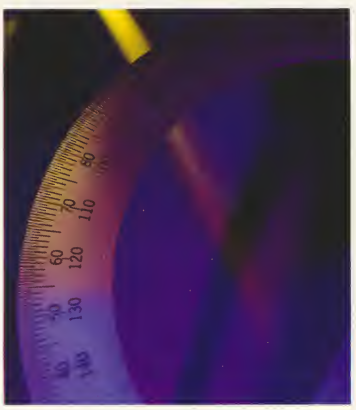
Integration

Documentation

Installation

Technology Transfer

SQL Solutions has successfully designed and implemented systems for clients in every major industry. Our senior consultants have from five to twenty-five years of experience in application design and development using a tremendous variety of tools, advanced modeling techniques and technologies. At SQL Solutions, we've pooled this experience and integrated our consultants' skills into a broad and consistent methodological framework. Information resource planning ensures that specifications meet business requirements while our systems development life cycle guarantees that software we design and develop performs as specified.



A complete and coherent approach. We use proven data and process modeling techniques and our own computer-aided software engineering (CASE) tools to analyze, design and manage implementation of an application. Entity Relationship Diagrams represent logical and physical database designs, corporate data models and external data models. High-level Data Flow Diagrams (DFDs) define the scope and business context of each subsystem or application. At lower levels, DFDs and Program Structure Diagrams are used to define functional structures, the flow of information and control structures within an application.

Where appropriate, we use prototyping to improve or validate these models. Detailed design reviews and walkthroughs using data models,

process models and screen and report layouts are generally sufficient to develop complete functional specifications. However, when requirements are particularly unclear, prototyping may be justified. Prototyping can also be useful in selecting between alternative physical designs when performance is an important factor or when very new technologies are being applied.

Effective management ensures quality and consistency. Once completed, these models serve as a complete functional specification for a proposed system. SQL Solutions can then help define an implementation strategy that makes sense for your organization and manage the software development process. We develop and test each module with respect to specifications, verify that it functions correctly within its integrated systems context and deliver data and functionality that your users will appreciate. We also assist in data conversion, installation and parallel testing of newly delivered software and provide documentation and training for end users and system administrators.

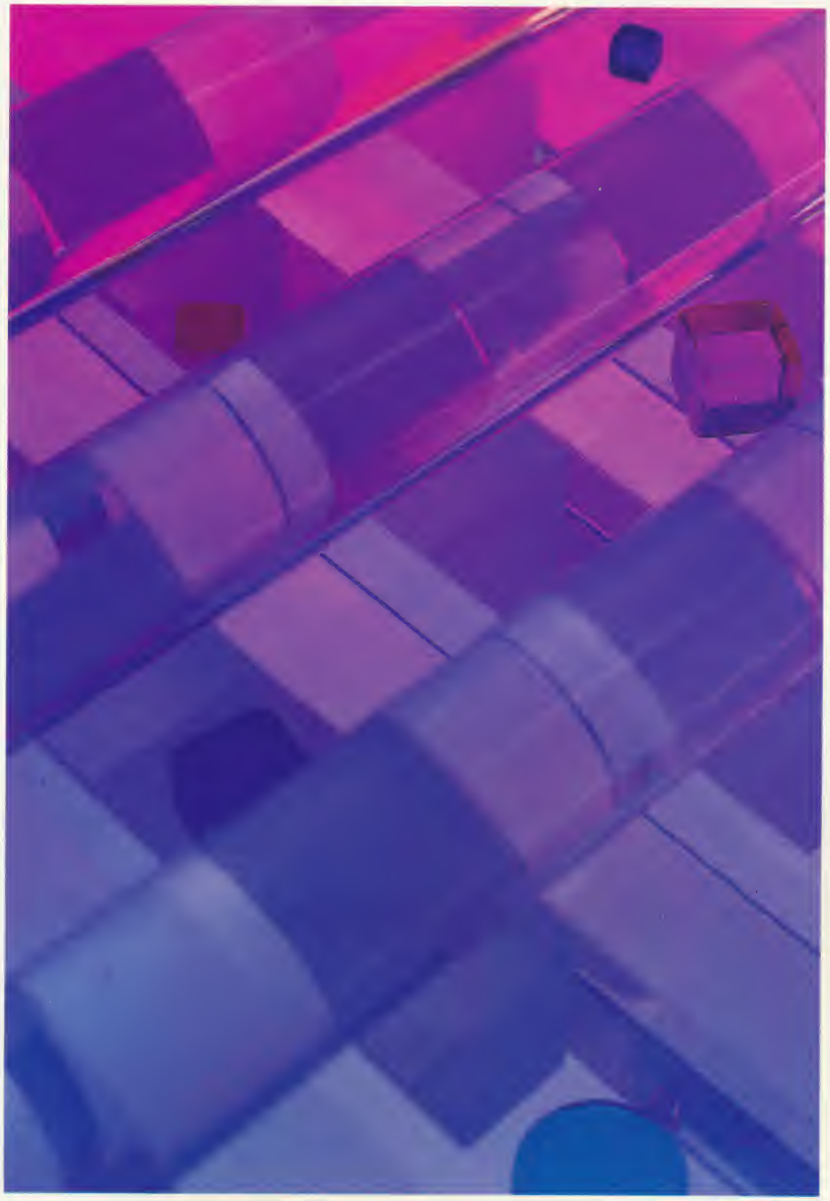
"Using state-of-the-art tools and techniques, we efficiently transform your business requirements into effective, reliable and performant applications."

System Integration

In today's world of distributed processing, it's becoming increasingly important for applications to be interoperable. Data is frequently shared by more than one system and certain businesses demand total integration. SQL Solutions understands the value of, and complexity associated with, interoperable and integrated systems and can help you plan for and manage their development, installation and maintenance.

Logically integrated data is a corporate asset. Data administration and information resource planning are essential components of systems integration and interoperability. Stand-alone applications and partially integrated systems contain redundant data found in other systems. Redundant data—whether it is rekeyed or "extracted" via some automated interface process—leads to information float and inconsistencies. SQL Solutions can help data administrators and information planners develop procedures to eliminate these problems by managing and ultimately eliminating data redundancy.

SQL Solutions doesn't just develop stand-alone applications; we can develop your entire computing environment. Once an application is developed, we install it and make it perform with other systems. We have the experience to design and build interfaces between systems running on disparate hardware and software platforms; and our extensive communications knowledge enables us to address all your networking needs.



"SQL Solutions doesn't just develop stand-alone applications; we can develop your entire computing environment."

Application Maintenance, Enhancement and System Administration

Database Administration

Application Maintenance and Enhancement

System Administration

Performance Tuning

Network Administration

Migration

Operational Control

In a production environment, policies and procedures are needed to manage operating systems, databases, networks and applications. Managing storage capacity, security, users and a constant stream of new software releases across multiple processors, heterogeneous networks and diverse applications can be very complex. SQL Solutions can work with you to establish appropriate policies and procedures rigorous enough to secure your systems and data, yet flexible enough to provide your business with effective and efficient access to information.

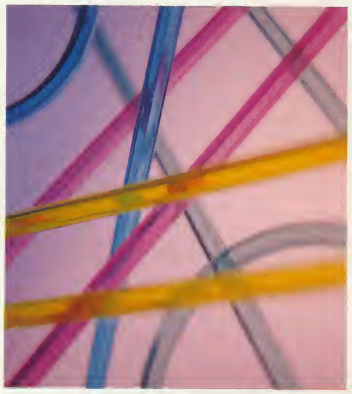
We'll help you handle change. The introduction of enhancements or updated software into a production environment, for example, must be controlled. SQL Solutions can help you apply standard procedures for handling system modification requests, ensuring that requirements for changes are defined and approved; that changes are designed before they are implemented; that the impact of changes can be accurately measured and controlled; and that systems and

user documentation are updated once changes have been implemented, tested and installed. We use CASE tools and RDBMS management utilities to lower the cost and improve the quality of systems documentation.

System and network administrators need effective tools and procedures in place that will allow them to recover quickly from a disaster. Often

vendor-supplied system backup and recovery procedures are not sufficient. Each client's environment is likely to be unique in some respects and in need of special operating procedures and organizational support. SQL Solutions can help your database and system administrators establish manual and automated procedures to minimize the impact of systems failure.

What they didn't tell you. RDBMS vendors often don't supply adequate tools and utilities to manage and secure distributed data, distributed



applications and a dynamic user community. Without the proper tools, administration of a database that has many shared resources can be time consuming and extremely complex. SQL Solutions offers a suite of DBA productivity tools, consulting services and training to facilitate application maintenance, database administration and secure systems administration.

"Because vendor-supplied procedures may not be adequate, we provide you with effective tools and procedures that will allow you to recover quickly from a disaster."

Training

SQL Solutions offers a wide variety of courses for designers, developers, system and database administrators and end users. The course selection for designers includes relational database concepts, data and process modeling and relational database design. For developers, our curriculum includes instruction in the use of application development tools for each of the major RDBMSs. We provide system and database administration courses for all of these platforms as well. End users can learn how to use their custom application and the end user tools provided by the RDBMS vendor and other third-party vendors. Other courses comprise introductory and advanced SQL, CASE, project methodology and various operating systems.

We can customize any course. To complement this curriculum, SQL Solutions develops custom courses according to your special needs. For example, we've developed and taught courses for users of applications. These courses can optionally be developed using a "train the trainer" method.

In addition to these formal training programs, we can apply a mentor approach whereby we work cooperatively with client staff and provide hands-on assistance throughout the project life cycle.

All our instructors have contemporary field experience, enabling them to construct realistic examples and to advise on avoiding common pitfalls. For convenience, classes can be taught at your site or in our training facility.

"All our instructors have contemporary field experience, ensuring that our courses address real-world business problems."

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SQL Solutions, Inc.

Corporate, Market and Product Background
January 1992

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COMPANY OVERVIEW

SQL Solutions, Inc. is the leading SQL Systems Integrator specializing in SQL Integration services and SQL productivity tools for the client/server environment. The company delivers the most comprehensive range of SQL Integration services in the industry. Working with information systems executives and SQL professionals, SQL Solutions provides tools and services for building relational database applications that meet business objectives including productivity improvement, cost reduction, and providing a competitive edge.

SQL Solutions' consultants have expertise with all major relational database management systems (RDBMS), including SYBASE, ORACLE, Rdb, INGRES, INFORMIX, and DB2. The company specializes in designing, implementing, and integrating RDBMS-based applications in heterogeneous hardware and distributed database environments.

SQL Solutions complements its Systems Integration services with a suite of multi-RDBMS tools, collectively called the SQL Productivity Environment (SPE). These tools are used by SQL professionals -- system designers, SQL programmers, database administrators, and system administrators -- throughout the entire SQL application lifecycle.

SQL Solutions, founded in May 1986, currently employs 220 people. The company is headquartered in Burlington, Massachusetts, and has 15 offices in North America including Canada; three international offices; and distributors worldwide.

THE MARKET

The evolution of corporate computing now allows seamless access to data and processing resources residing on different types of computers connected via a network. In part, the progress of this technology is possible because of the flexibility inherent in RDBMSs.

The increasing use of RDBMSs for complex, multiple application, distributed environments has created an immediate need for services and products that improve RDBMS application design and development, as well as performance and operational controls. While traditional database development tools are outdated, the RDBMS

aftermarket -- projected to grow substantially over the next decade -- promises a booming new industry.

Market & Product Strategy

From its own experience as RDBMS Systems Integrators, SQL Solutions recognized the need for more robust SQL productivity tools. Whether developed internally by SQL Solutions, acquired, or distributed, SQL Solutions' product selection criteria are straightforward: interoperability across multiple RDBMS environments and platforms; high productivity and performance orientation; and ease-of-use.

With the depth and breadth of its SQL expertise and RDBMS-independent products, SQL Solutions is in a strong position as a leading systems integrator in the RDBMS aftermarket. SQL Solutions has expertise in all major industries including financial services and banking, manufacturing, telecommunications, government, chemicals and oil, insurance, healthcare, publishing, accounting and pharmaceutical. More than 1,000 major companies in commercial and government markets worldwide use SQL Solutions consulting services and/or tools.

Products are sold through a telesales and telemarketing distribution arm, as well as through a federal division, consultants, strategic partnerships, value-added resellers and original equipment manufacturers.

To date, SQL Solutions, Inc. has no direct competition. The company is unique in that it is the only SQL Systems Integrator focusing exclusively on developing SQL-based tools and consulting for the SQL application lifecycle.

Strategic Partners

SQL Solutions maintains several strategic marketing and technology relationships with major software and hardware providers. Its consulting partners include Banyan Systems, Microsoft, and Lotus. SQL Solutions also leverages its experience with database front-end tools through a consulting service alliance with Natural Language Incorporated, developer of the Natural Language access tool for RDBMSs, and with several management consultants including Arthur Anderson, Coopers & Lybrand, Ernst & Young and Price-Waterhouse.

In addition, SQL Solutions is a member of several vendors' ISV programs including those at Informix, Stratus Computer, Sequent Computer, IBM, Digital Equipment Corporation, SUN Microsystems, and Apple Computer. The company also holds strategic business agreements with other major vendors including NCR Corporation.

SERVICES

SQL Solutions' services support RISE (Relationally Integrated Systems Engineering), a new discipline that combines design and analysis methods, productivity tools, and structured techniques to facilitate the planning, designing, development, and maintenance of RDBMS-based applications.

The company's consultants are conversant with all RDBMS SQL dialects, application development tools, computer aided software engineering (CASE), optimizers, report writers, APIs, protocol interfaces, and more. This expertise, combined with the firm's knowledge of communication protocols, operating systems, networks, and data administration, enable them to plan, design, and construct architectures, systems, and applications that reflect business information needs.

SQL Solutions offers specific services including: strategic business analysis and modeling, information architecture and resource planning, custom application design and development, performance and migration services, and system administration. The company also offers a curriculum of training courses, with emphasis in design methodology, database design, CASE, SQL, database and system administration, operating systems, and third-party products.

PRODUCTS

SQL Solutions offers the first complete suite of SQL productivity tools that address each juncture of the SQL application lifecycle. All tools are designed to operate across major computing platforms and RDBMSs to aid systems analysts, SQL programmers, and database and systems administrators in delivering high performance applications for the information enterprise. SQL Solutions supports these products directly with its own

worldwide sales force. The products, by category, are as follows: (Please see product data sheets for more information.)

Design & Analysis

- Deft® -- Computer-aided software engineering (CASE) tool
- TOP*CASE™ -- *the SQL Application Generator,* is a repository-driven application development environment for RDBMS applications.

Development and Implementation

- SQR® -- Procedural fourth generation language (4GL) and report writer
- Easy SQR™ -- End-user query builder and report generator
- Easy SQR for Windows™ -- Windows-based end-user query builder and report generator
- SQR◆Developer's Kit™ -- Debugging productivity environment for SQR
- SQL◆Debug™ -- Graphics-based, interactive, source-level debugger for procedural extensions to SQL
- Gateway Services -- Client/server-based Gateway products provide interoperability and integration between SYBASE, ORACLE, Rdb, INFORMIX, and INGRES engines
- Gateway Link™ -- Developed in cooperation with Microsoft, the Gateway Link integrates PC/LAN clients with VAX and UNIX databases in an open systems architecture.

Performance Tuning

- SQL◆Advantage™ -- Multi-RDBMS environment for writing and debugging SQL Code
- TOP*Converter™ -- Conversion tool for ORACLE SQL*Forms applications

Operational Control

- SA Companion™ -- First operational control environment for SYBASE
- DBA Companion Environment™ -- Operational control environment for ORACLE that consists of three modules:

Application Manager™ -- Application configuration and security management facility
Resource Manager™ -- Storage management and capacity planning tool
Database Analyzer™ -- In-depth database object management facility

FUTURE DIRECTIONS

SQL Solutions is well positioned to continue to experience dramatic growth by offering an exciting mix of expertise and products in a booming industry. Perhaps most significant to its growth strategy is its ability to leverage both SQL Integration services and productivity tools in conjunction for complete open systems solutions.

To fuel this growth, SQL Solutions will continue to develop and market productivity tools that add value to the management and development of SQL-based relational database applications across a broad range of platforms. This will also include new training courses and seminars on SQL and database design; development of telesales campaigns; alliances with hardware and software vendors; and third-party programs with value-added resellers and original equipment manufacturers.

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1/30/92

Please note the following address revisions:

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The SQL Productivity Environment

SQL Solutions

PRODUCTIVITY. For years computer professionals have been searching for productivity solutions to meet the ever-increasing user demands for faster access to corporate information.

In the 1990s, given the complexity of integrating disparate information architectures across the enterprisewide corporate computing environment—marked by complex networks, dissimilar communication protocols, heterogeneous hardware platforms and operating environments and distributed, interoperable relational databases—the search for productivity solutions has taken on new meaning.

Relational database management systems (RDBMSs) have evolved as the preeminent database architecture of the 1990s, with SQL serving as the common language and vehicle for querying and manipulating data. Early on the significant penetration of RDBMSs ushered in a new era of productivity evidenced by a proliferation of productivity tools, such as 4GLs, code generators, screen painters and spreadsheets. These early tools offered many-fold productivity gains over traditional 3GL programming environments.

But given the complexity of the 1990s enterprisewide computing arena and the industry shift toward distributed, multi-RDBMS environments, these first generation SQL tools are not enough. The success of today's SQL professionals—systems designers, SQL programmers, database administrators (DBAs) and system administrators (SAs)—rests on the availability of high-performance, RDBMS-independent SQL productivity tools that are necessary to design, develop and manage robust RDBMS applications, particularly in corporations where more than one RDBMS is becoming commonplace.

Without question, proprietary RDBMS vendors have made great strides in developing powerful RDBMS "engines." But such vendors have lagged far behind in developing high performance SQL tools. SQL professionals are now struggling to contain the rising SQL application backlog.

Today SQL professionals are confronted with a host of new problems that traditional SQL tools have failed to solve. SQL professionals are now frustrated by the difficulties of integrating and porting relational database applications, the need for a common relational repository to support systems designs for multiple RDBMSs, the inefficiencies of SQL as a language, the differences between RDBMS vendor implementations of SQL, the scarcity of programmer productivity tools for developing, debugging and performance tuning SQL code and the challenge of managing security, users, applications, servers, devices, source code, database and system objects and storage capacity resources in dynamic production RDBMS environments.

At SQL Solutions we are intimately familiar with these problems. We are SQL Systems Integrators. For years we have been providing our clients with solutions to such problems, aided by a powerful suite of SQL productivity tools, which we now offer as the SQL Productivity Environment (SPE).

The SQL Productivity Environment (SPE)

The SQL Productivity Environment (SPE) is a compendium of tools that solve the problems SQL professionals face at each phase of the SQL Application Lifecycle, from systems design and analysis to application development and debugging, testing and tuning, on through operational control.

In a real sense, our customers designed our solutions. Several of these tools were developed in response to client disappointment with existing proprietary offerings. Others arose directly out of our consulting experience, where we determined better ways to increase productivity, flexibility and precision. Utilizing the SQL Productivity Environment, our consultants have implemented hundreds of applications for every major RDBMS environment, including SYBASE™, ORACLE™, Rdb™, INGRES™, Informix™ and DB2™, across every major industry.

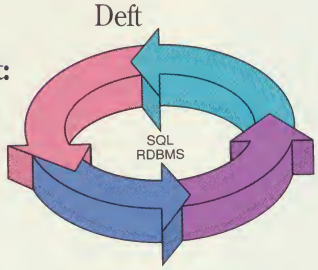
SPE: The Tools of Relationally Integrated Systems Engineering (RISE)

The SQL Productivity Environment is the only toolset on the market that supports Relationally Integrated Systems Engineering (RISE), a new discipline that combines design and analysis methods, productivity tools and structured techniques to facilitate the planning, designing, development and maintenance of RDBMS-based applications. With the tools of RISE, SQL professionals are now equipped to slash the growing RDBMS application backlog and reduce systems development and maintenance costs dramatically.

SQL Productivity Environment: The SQL Application Lifecycle Solution

Design/Analysis:
Deft

Application Development:
SQL*Advantage
SQL*Debug
SQR Family
Gateway Services:
(SYBASE, ORACLE, Rdb, INGRES, Informix, RMS)



Operational Control:
DBA Companion Environment
SA Companion

Testing/Tuning:
SQL*Monitor
Performance Accelerator
SQL*Batch

SQL Productivity Environment Tools

Deft™, a multiuser Computer-Aided Software Engineering (CASE) tool for Macintosh, Unix and VMS environments. Deft provides true RDBMS integration and both forward and reverse engineering of form definitions and schemas between all major RDBMSs.

SQL*Advantage™, the first programmer productivity environment allowing SQL programmers to develop and detect errors in SQL code without leaving their native editor.

SQL*Debug™, the first interactive, source-level debugger for procedural extensions to SQL.

The SQR Family

SQR™, a powerful procedural 4GL and industrial-strength report writer designed for all major RDBMSs.

Easy SQR™, an ad hoc query builder and report writer featuring a window-driven interface.

SQR*Developer's Kit™, a toolkit that provides comprehensive debugging and cross-referencing facilities for SQR programmers.

Gateway Services, a suite of gateways that provide both read and write access between major RDBMSs and nonrelational file structures, including SYBASE, ORACLE, Rdb, INGRES, Informix and VMS RMS files.

SQL*Monitor™, a suite of monitoring services to pinpoint performance bottlenecks in all areas of client/server environments, from client transactions to overall system-wide performance.

Performance Accelerator™, a software optimizer that dramatically improves the performance of ORACLE SQL*Forms™.

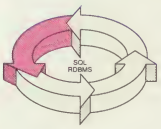
SQL*Batch™, a unique tool that adds multi-tasking capabilities to your RDBMS under VMS.

DBA Companion Environment™, a robust toolset for managing applications, users, source code, security, database objects and storage capacity resources in SQL production environments.

SA Companion™, a window-based operational control toolset that automates the functions of SQL systems administration in multiserver environments.

Tools for Each Phase of the SQL Application Lifecycle

Design and Analysis Phase



Sound relational systems design requires both expertise in design methodology and the use of CASE technology engineered specifically for RDBMS development. SQL Solutions satisfies both requirements by offering the RISE Methodology, a proven body of design and analysis methods and structured techniques, and the premier CASE solution for RDBMSs—Deft.

Deft

Deft is the industry leading multiuser RDBMS CASE product for Macintosh, VMS and Unix environments. No other RDBMS

CASE tool is as powerful or as easy to use as Deft. And Deft is the first CASE solution to support all the critical functionality of Relationally Integrated Systems Engineering (RISE).

Ease of Use. Deft's intuitive Macintosh interface lets you start designing robust relational systems even before you have finished reading the manual. As for flexibility, Deft supports the methodology standards of Chen/Bachman, Martin, IRM, Yourdon and Gane & Sarson.

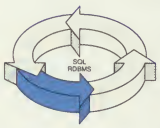
Complete RDBMS Integration. Deft provides true integration with every strategic RDBMS, including SYBASE, ORACLE, INGRES, Rdb, Informix and DB2, resulting in complete relational systems portability and dramatically reduced maintenance costs. With its unparalleled forward and reverse engineering feature, Deft automatically generates an RDBMS-specific schema and form definition from Deft design documents, allowing you to reverse engineer forms and data definitions back to Deft design documents. You can then forward engineer the design documents into another RDBMS-specific schema. In this fashion, you can forward and reverse engineer systems between ORACLE and SYBASE, for example, with a click of the mouse.

Deft also supplies a powerful dictionary-driven set of four editors (Entity-Relationship Diagram, Data Flow Diagram, Program Structure Diagram and Forms Editor) that share a common relational repository.

Presentation-Quality Reporting and Documentation. Ease of use and true RDBMS integration are only the beginning. Deft excels in its presentation-quality and system documentation capabilities. Deft automatically formats high-resolution drawings and sophisticated reports through desktop publishing on the Macintosh.

Whether you are designing and building new relational systems or maintaining existing systems, Deft gives you the power to go from requirements specifications through systems generation and back again—all with the ease of use and presentation quality only a Macintosh can offer.

Application Development Phase



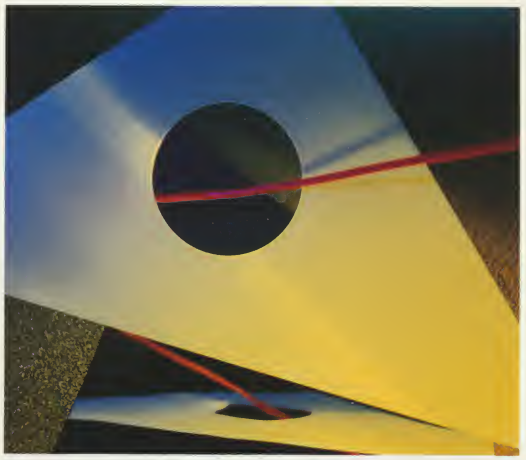
The evolution of RDBMSs opened up a floodgate for nonprocedural application development tools to offset the high costs of 3GL programming. The benefits of these SQL-based, nonprocedural tools were clearly seen in the acceleration of application prototyping. Serious SQL programmers soon realized, however, that nonprocedurality forced costly trade-offs. Sacrifices had to be made in programmatic control to take advantage of nonprocedural SQL.

Today the pendulum has shifted the other way. SQL programmers demand a balance between nonprocedurality and procedural precision in their RDBMS application development tools. SQL Solutions is the first solutions vendor to acknowledge this market trend. We offer a suite of application development tools that enable SQL programmers to prototype, develop, enhance and maintain sophisticated RDBMS applications quickly and cost effectively, without sacrificing procedural control.

SQL*Advantage: The SQL Command Center

SQL*Advantage is the first multi-RDBMS programmer productivity environment for developing and debugging procedural SQL code. With SQL*Advantage developers can now write SQL code faster than ever before, realizing three- to fivefold productivity gains. SQL*Advantage features three components:

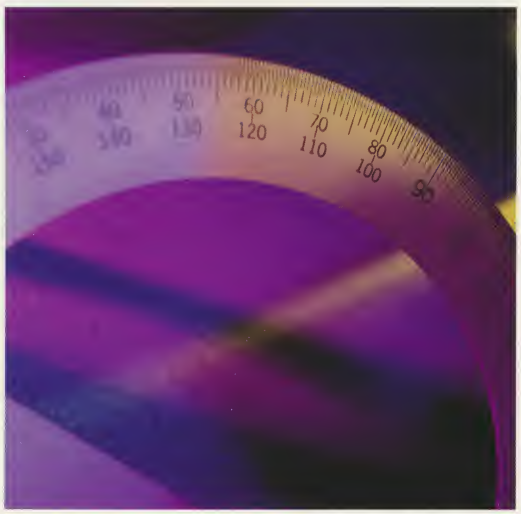
SQL*Edit is a familiar programmer editing environment tailored to meet the challenges inherent to SQL development. SQL*Edit emulates the popular editors for VMS, Unix and PC environments such as EMACS, EVE/TPU, VI and Brief or allows you to use our own intuitive editor. SQL*Edit



lets you submit SQL code directly to the database without leaving the editor. You can even highlight a part of a query and submit just that piece of code for execution. This enables you to iteratively test and fine-tune complex queries rapidly.

SQL*Code Checker offers comprehensive syntax and error checking of your procedural SQL code. If your prodecure has failed, the SQL*Code Checker shows you the exact location of each error, allowing you to correct errors immediately. The SQL*Code Checker provides object reference and definition checking to ensure that your code correctly refers to database objects, and it also detects unusual or unrecommended coding practices, such as defining a label or variable without referring to it later in your procedure.

SQL*Help provides fingertip access to a wealth of context-sensitive help information. SQL*Help gives you information about the database schema, contents of stored procedures or triggers, library functions, SQL syntax, RDBMS vendor documentation and editor features—all without leaving the editing environment. You can even cut such help information and paste it directly into your procedure.



SQL•Debug

SQL•Debug is the first multi-RDBMS, interactive source-level debugger for SQL environments. SQL•Debug applies 3GL debugging technology to assist SQL developers in identifying and correcting logic and performance problems in their SQL code early in the development process.

Featuring a graphical user interface, SQL•Debug offers step-level execution, breakpoint setting, conditional tracing, stack content viewing and variable examination and control to identify logic and naming bugs that frequently creep into SQL code.

To identify performance bottlenecks, SQL•Debug captures execution timing statistics for SQL statements. SQL•Debug tracks the frequency with which a SQL statement is invoked to ensure that all logic threads in your code have been thoroughly exercised. Finally, SQL•Debug provides optimization plan analysis and offers complete transaction auditing for SQL transactions issued from *any* application running under the network.

The SQR Family

The SQR Family represents a complete report writing solution and much more. It is composed of three individual products—SQR, Easy SQR, and SQR•Developer's Kit.

SQR is the only procedural 4GL report writer available for the multi-RDBMS market today. For serious SQL programmers, SQR combines the latent power of nonprocedural SQL with the grace of a programming language.

SQR supports the full complement of SQL, including DML, DDL and DCL commands. What differentiates SQR, however, is its unique structure, which allows you to embed procedural commands (such as IF THEN ELSE, DO WHILE, EVALUATE), print statements and report format commands directly in a SQL query. SQR is an intuitive, feature-rich language, supporting fixed and relative field positioning, substitution variables, parameter passing, 3-D arrays and precompiled queries. SQR can even serve as a callable function library. With SQR a user can perform almost any 3GL task—but twice as fast, with half the number of lines of code.

SQR gives you power to write *any* report —we guarantee it.

Easy SQR is an easy yet powerful query builder and 4GL report writer that enables casual and nontechnical users to create the complete range of formatted reports without having to write a single line of SQR or SQL

code. Easy SQR features a window-driven interface to combine simplicity with power.

Easy SQR provides several default report formats, including tabular reports, form letters, mailing labels, master-detail and data export formats. A full-screen editor allows the user to refine the layout of a report directly on the screen.

While primarily for the nontechnical user, Easy SQR is also used extensively by SQR programmers as a prototyping tool. Easy SQR generates modifiable SQR code. SQR programmers typically build a skeleton report in Easy SQR, generate the SQR code, then

augment the report within their native editor using SQR commands.

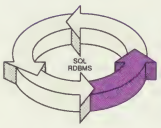
SQR◆Developer's Kit supplies SQR programmers with valuable add-on tools to facilitate the analysis and debugging of sophisticated SQR procedures. Collectively, the SQR◆Developer's Kit provides variable and procedure call tracing, performance tuning statistics on query and procedure execution, a cross-reference facility for variables to determine improper use or variable mistyping and a detailed display of the SQR program structure, formatted in terms of hierarchical dependencies.

Gateway Services

Gateways are typically used in one of two fashions: as part of a migration strategy to preserve an organization's data investment as they move from one RDBMS environment to another or as a cooperative strategy whereby an organization has committed to an RDBMS standard but decides to introduce new applications on a different RDBMS that must be integrated within the existing systems environment.

SQL Solutions has developed a sophisticated gateway strategy to bridge the gulf between RDBMSs and nonrelational data sources, enabling an organization to fully preserve their data and application investment. The Gateway Services forge links between the SYBASE, ORACLE, Rdb, INGRES, Informix RDBMSs and VMS RMS files, with other data sources planned. Utilizing a powerful Server Generation Language (SGL) technology, the gateways provide full read and write access and automatically manage the conversion of underlying data types, the mapping of SQL extensions and the handling of error messages between both client and server.

Testing and Performance Tuning Phase



Armed with high-powered application development tools, SQL programmers can now build better systems faster than ever before. But once your SQL-based systems are up and running, careful attention must be given to testing, refining and performance tuning the application to satisfy production demands. The goal for this phase of the SQL Application Lifecycle is to build *faster* systems *better* than before.

We have translated our experience with building systems for every RDBMS environment to provide you with productivity tools to assist in dramatically reducing bottlenecks in the testing and tuning cycles.

SQL*Monitor

SQL*Monitor provides a full range of monitoring services for client/server environments. SQL*Monitor probes critical areas of the client/server environment—client transactions, servers and system administration events—to assist SQL programmers and system administrators in performance tuning both applications and systemwide performance. The SQL*Monitor features three monitoring services:

The Client Monitor offers transaction performance analysis. It collects transaction data for logical and physical I/O, elapsed time and CPU time. For each transaction the Client Monitor maintains usage, table scan, abort and deadlock counts. An audit trail can be generated to monitor transaction execution for each account connected to the server. The Client Monitor also collects user accounting information for use in sophisticated chargeback/accounting systems.

The Server Monitor collects usage statistics about server resources—specifically CPU utilization, disk I/O and memory resources—and presents the information in either graphical or tabular format to the Server Monitor. With the Server Monitor, system administrators can effectively monitor the overall performance of large-scale distributed database networks, pinpointing response time problems, improper I/O load balancing across disk devices and the impact of memory utilization on system throughput.

The SA Monitor allows a system administrator to manage remote server installations from a central site. The SA Monitor intercepts administrative event conditions occurring on remote, often unattended network installations—such as a database or transaction log requiring backup, unexpected client disconnections, client deadlocks or unacceptable system response time—and alerts a central system administrator to take corrective action.

Performance Accelerator

The Performance Accelerator combines two advanced technologies to solve the critical performance problems of ORACLE SQL*Forms applications—increased CPU usage owing to poor memory management and costly, needless database interaction owing to the use of the ORACLE DUAL table. The Performance Accelerator caches cursors to improve response time and reduce CPU

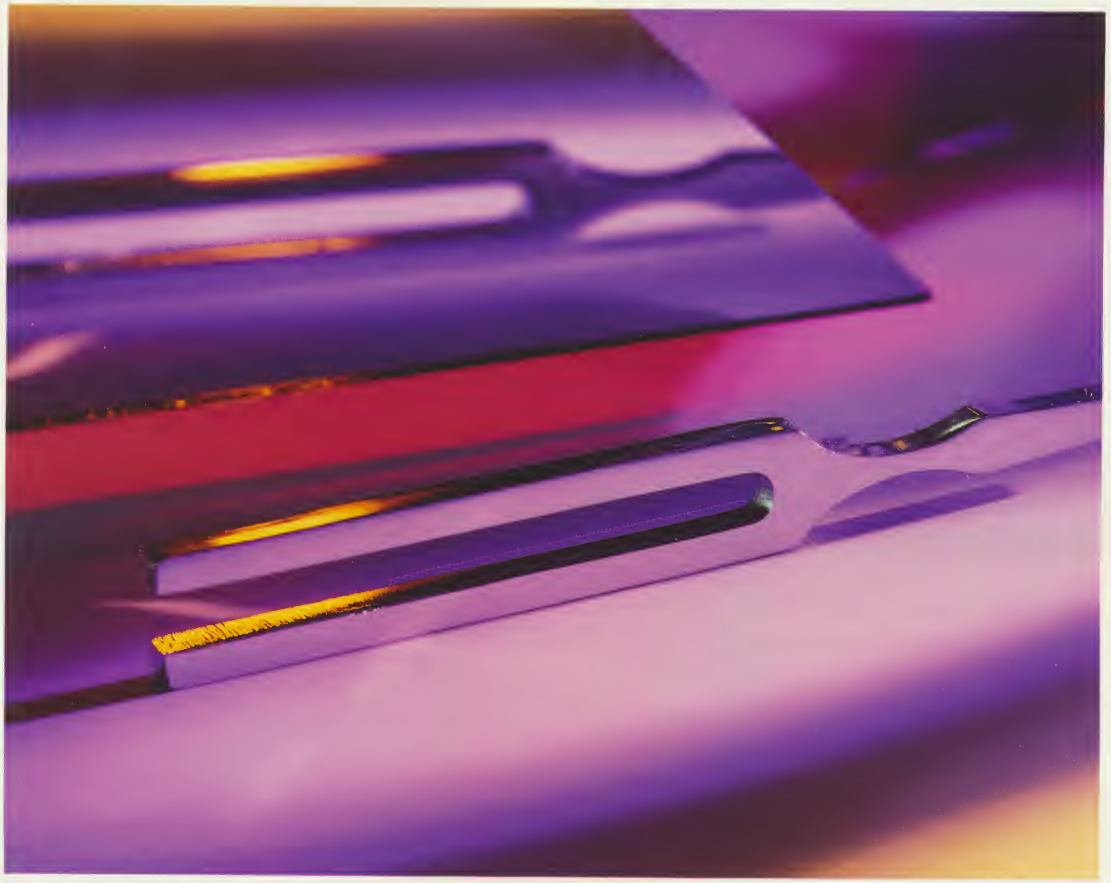
usage. It further boosts performance by eliminating all calls to the ORACLE DUAL table, a device required by ORACLE SQL*Forms when it performs application logic such as comparing field values for validation.

The Performance Accelerator also profiles an entire application, producing detailed timing statistics on SQL statement triggers. Via a menu-driven interface, the Performance Accelerator lets you review performance statistics, such as elapsed execution time and elapsed parse time, a task that is critical in pinpointing and correcting application bottlenecks and inefficiencies.

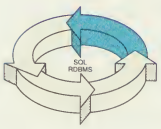
SQL*Batch

SQL*Batch is a unique tool that adds multitasking capabilities to your RDBMS and VAX/VMS environment. With SQL*Batch you can submit procedures for any RDBMS directly to the VAX/VMS batch processor, leaving your terminal free for work that can only be done interactively.

SQL*Batch allows system managers to better balance the CPU load by deferring RDBMS reports and other time-intensive tasks to off-peak hours or by running them at lower priorities. Terminal time is then maximized for other interactive RDBMS applications.



Operational Control Phase



Until recently the operational control arena was unchartered territory for RDBMSs in OS/2, Unix and VMS environments. As RDBMSs gained prominence and user confidence in the technology evolved, corporations began migrating RDBMS applications out of testing and into production environments. With this migration countless problems emerged, all of which pointed to one thing—the tremendous need for operational control facilities to manage the day-to-day operations of database administration and to effectively manage growth.

At SQL Solutions we pioneered technologies to address these problems long before RDBMSs had seen widespread corporate use.

DBA Companion Environment

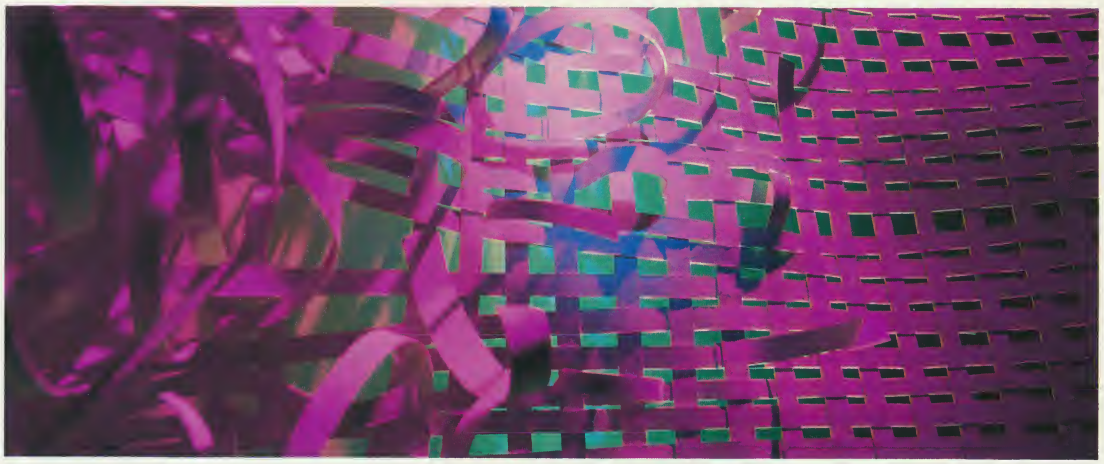
The DBA Companion Environment is SQL Solutions' flagship product, a versatile suite of tools that enable database administrators to effectively manage applications, users, security, source code, database objects and storage resource capacity in rapidly evolving SQL production environments.

The DBA Companion Environment comprises three separate products: the Application Manager, the Database Analyzer and the Resource Manager.

The Application Manager is a controlled, forms-based environment for automating application configuration management and security. The Application Manager provides sophisticated scanner routines that scan the source code files of your applications, extracting the specific table access requirements for each resource—screen, report, script and program—comprising your applications. The information is then loaded into an application repository for further analysis. The power of these scanner routines makes it possible to see the interrelationships between all source code modules and files. A complete cross-reference facility is available for each RDBMS object, allowing you to perform impact-of-change, where-used and application bill-of-material functions.

At the heart of the Application Manager is the automation of database security. With the Application Manager the DBA no longer has to manually grant specific access privileges to each user for each table—a tedious and error-prone process at best. The Application Manager fully automates the process by using the scanner routines and by introducing the concept of "user classes." When new database users are created, the DBA simply assigns them to the appropriate user class, and the literally hundreds of GRANT statements required by the RDBMS are automatically issued, audited, managed and reported on. In addition, the Application Manager comes with a dynamic, privilege-dependent runtime menu system.

The Database Analyzer is the perfect complement to the Application Manager. It provides in-depth analysis, exception reporting and automatic cleanup of virtually every database object in the RDBMS environment. The Database Analyzer examines over 120 database objects and attributes to produce intuitive exception reports and interactive screens that quickly identify portions of the database environment that require immediate attention. Should problems be detected, such as a



number of widowed synonyms or grants still residing in the database, the Database Analyzer offers the DBA the option to automatically remove them from the database.

The Resource Manager is the first storage management and capacity planning tool designed for RDBMSs. With the Resource Manager the DBA can now efficiently utilize storage resources, identify and correct fragmentation and chaining problems, ensure optimal database performance and plan for future database expansion by monitoring growth rates.

The Resource Manager contains four modules: the **Recorder**, which logs information about resource objects (tables, tablespaces, indexes, clusters, etc.), the **Reporter**, which generates a variety of on-line reports, including statistics, totals, histograms and trends analysis, based on the Recorder data; the **Expert**, used to easily locate anomalies in the storage architecture, such as which tables are candidates for striping, which indexes are redundant, which clusters are highly fragmented, and so forth; the **Assistant**, which automatically resizes database objects, moves objects between tablespaces, drops and renames objects and eliminates both table and database fragmentation.

SA Companion

SA Companion is the only operational control environment to meet the productivity demands of SQL system administrators. Fully integrated, SA Companion aids system administrators in managing complex server networks—often configured with multiple servers, devices, databases and users—that dynamically change as the information enterprise evolves.

SA Companion's intuitive window-driven interface permits system administrators, even those new to the role, to quickly learn to master the art of SQL systems administration. With SA Companion you can configure and control multiple servers without learning or recalling syntax for dozens of SQL commands or system procedure calls. SA Companion even creates data definition language (DDL) scripts that can be used to re-create the entire server environment.

SA Companion organizes the functions of SQL systems administration into the following categories, each accessible from the main SA Companion menu: Server, Device, User and Database Management.

The SQL Productivity Environment: The Complete Solution

No other software development firm has the depth or breadth of tools to compare to the SQL Productivity Environment. Given SQL Solutions' years of experience in relational database management systems, our productivity tools can assure your success in meeting the escalating productivity demands at each phase of the SQL Application Lifecycle.

Premium Support for Premier Solutions

Addressing your productivity demands is critical, but safeguarding your software investment is equally important. SQL Solutions protects your investment in the SQL Productivity Environment by offering the most comprehensive corporate support program in the industry today.

Staffed by quality technical support specialists, SQL Solutions' Support Services Program is designed to assist you every step of the way, from product installation through test and ongoing use of the software. Our support staff is not only conversant in the SQL Solutions product offerings but also has the necessary RDBMS, operating systems, communications and networking expertise to quickly resolve configuration-related issues that may arise.

SQL Solutions' entry-level support package consists of full product documentation and telephone hotline support; software update rights are included. SQL Solutions also offers premium support packages, which include 24-hour telephone hotline support and a range of consulting and training services.

SQL Solutions

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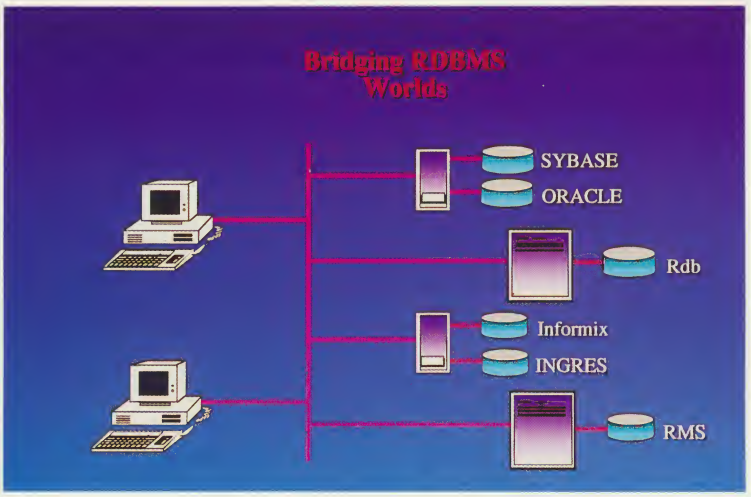
SQL Solutions

Gateway Services

Transparent Access to Multi-RDBMSs



SQL Solutions announces a sophisticated gateway strategy providing interoperability between the SYBASE SQL Server™and ORACLE™, Rdb™and Informix™ databases, and VAX RMS™files, enabling an organization to preserve both their data and application investment.

Gateways are typically used in one of two fashions — as part of a migration strategy to preserve an organization's investment as they phase out of one RDBMS environment and gradually phase into another, or as a cooperative strategy, whereby an organization has committed to an RDBMS standard but decides to introduce new applications using a different RDBMS that must be integrated within the existing systems environment.

Our Gateway Services allow an Open Client application — one built with third-party or custom written tools that interface with the SYBASE Open Server™API — to transparently retrieve and update data to and from the SQL Server, and ORACLE, Rdb, INGRES and Informix databases or RMS files, without knowing where the data actually resides. With these gateways, an Open Client application can even access multiple databases running concurrently.

Designed with the Open Server technology, the gateways extend Open Server to automatically manage client/server connections, the conversion of underlying datatypes, the mapping of SQL extensions and the handling of error messages. The gateways also support programmable Remote Procedure Calls (RPCs), allowing peer-to-peer communication between any combination of databases.

Features

- Provides transparent access to data in SQL Server, ORACLE, Rdb, INGRES and Informix databases and RMS files.
- Allows SELECT, INSERT, UPDATE and DELETE operations to be performed.
- Automatically converts underlying datatypes.
- Translates SQL extensions between the supported SQL implementations.
- Supports programmable RPC handling.
- Supports all Open Client tools as well as custom-written applications.
- Promotes true database interoperability.

SQL Solutions

SQL Solutions is the leading SQL Systems Integrator, specializing in SQL Integration services and SQL productivty tools for the client /server environment. We offer a suite of multi-RDBMS productivity tools, collectively the SQL Productivity Environment (SPE), to assist SQL professionals — system designers, SQL programmers, database administrators and systems administrators — through the entire SQL Application Lifecycle.

SQL Solutions delivers the most comprehensive range of SQL Integration services in the industry. Our methodology — RISE, Relationally Integrated Systems Engineering — is a compendium of tools, techniques and services for assisting customers in re-engineering business processes and in designing and implementing distributed, interoperable systems. In order to accomplish this, SQL Solutions has developed expertise spanning multiple technologies — databases, networks, communication protocols, operating systems, CASE and data acquisition.

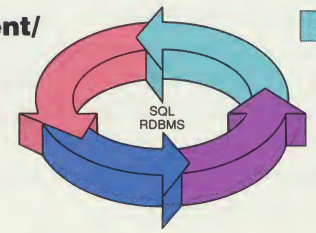
SQL Productivity Environment

Design/Analysis

- Deft

Application Development/ Debugging

- SQL◆Advantage
- SQL◆Debug
- SQR Family
- Gateway Services



Operational Control

- DBA Companion Environment
- SA Companion

Testing/Tuning

- TOP*PL/SQL Converter
- Performance Accelerator
- SQL◆Batch

SQL Solutions

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Gateway Services™

Transparent Access to Multiple RDBMSs from PC LANs

SQL Solutions, the leading SQL Systems Integrators, introduces a new product to the Gateway Services line — the Gateway Link™.

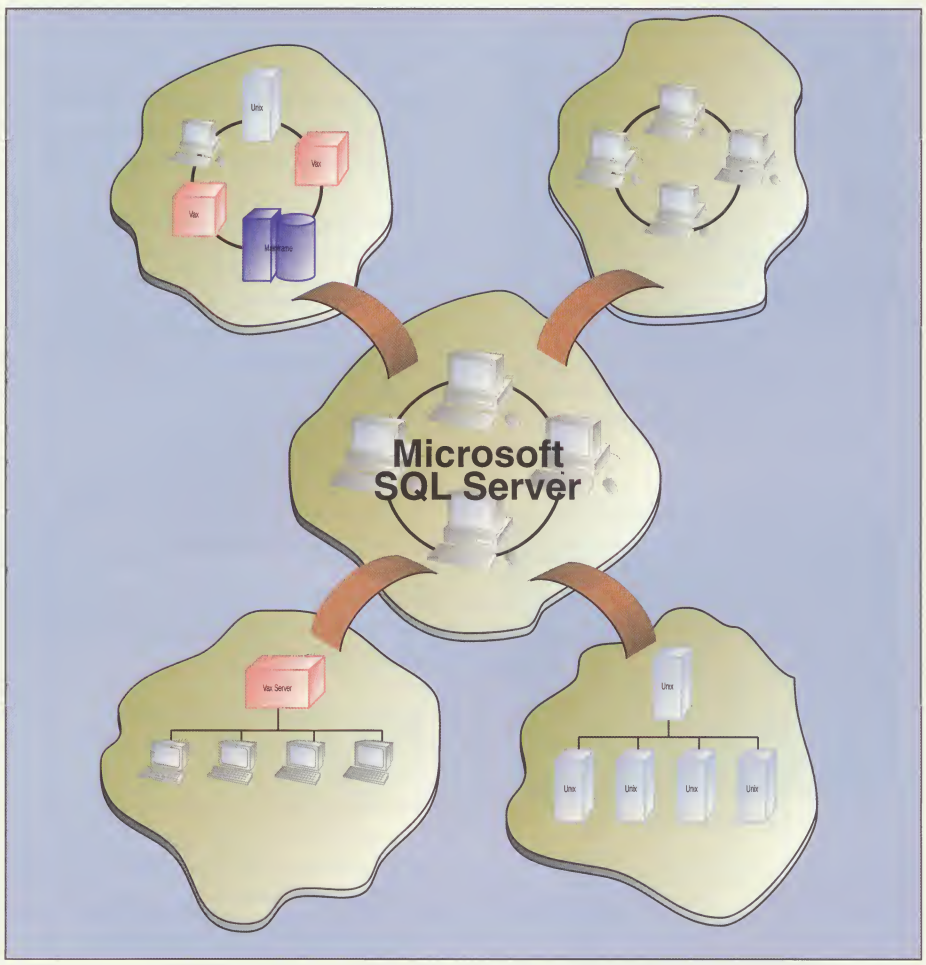
Developed in cooperation with Microsoft, the Gateway Link integrates PC/LAN clients with VAX® and UNIX® databases in an open systems architecture.

Overview

As organizations face the difficult challenges of shrinking budgets, consolidation of functions, and scaling back of operations, IS managers are searching for ways to better utilize the cost/performance advantages of powerful PCs on LANs. With SQL Solutions' new Gateway Services, PC/LAN applications can be linked smoothly into enterprise data sources without modifying the current host applications. Investment in existing data and applications can be protected and extended by providing access to minicomputer data sources from a broad range of powerful, easy-to-use PC applications available under DOS, Windows, and OS/2.

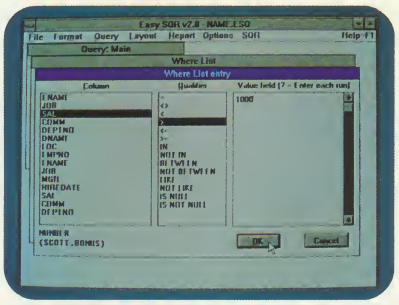
Gateway Services for Database Interoperability

SQL Solutions has developed a sophisticated set of gateway products that enable PC clients on LANs to work cooperatively with VAX and UNIX systems and access corporate data on all major minicomputer data sources (ORACLE®, INGRES™, INFORMIX®, Rdb™, SYBASE® databases, and VAX RMS™ files). These high-performance gateways allow an SQL Server client application — one built with the DB-Library® API — to easily retrieve and update data from any of these RDBMS and flat file data sources. SQL Server client applications can even access multiple databases running concurrently.

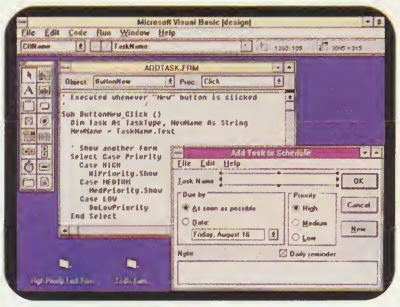


Gateway Link

The Gateway Link provides PC LAN connectivity to Gateways on UNIX and VAX platforms, which in turn give access to the relational database servers. Named Pipe clients in PC applications are mapped into either TCP/IP™ or DECnet™ connections. The PC LANs can be any of the popular LANs in use today that provide compatibility with OS/2 servers and Named Pipes. With the Gateway Link, PC clients can also take advantage of protocol mapping services when accessing Sybase SQL Server on VAX or UNIX platforms.



Easy SQR for Windows



Microsoft

Forest & Trees

Advanced Revelation

Technical Highlights

Interoperability between multiple RDBMSs in an open system architecture via the Gateway Link

- PC/LAN applications can transparently access corporate data from all major minicomputer data sources (ORACLE, INGRES, INFORMIX, Rdb, SYBASE, RMS).
- SQL Server client applications on DOS Windows and OS/2 can work cooperatively with multiple RDBMSs.
- Multi-table joins may be enabled, even for data sources distributed across different server platforms.
- Back-end data sources can be accessed using tools from leading independent software vendors, including Borland International, Channel Computing, DataEase International, Intelligent Environments, Lotus Development Corporation, Matesys, Microsoft Corporation, Revelation Technologies, Software Publishing Corporation, Sybase, Inc., SQL Solutions and others.

Single client interface from PCs to all the relational databases on the network

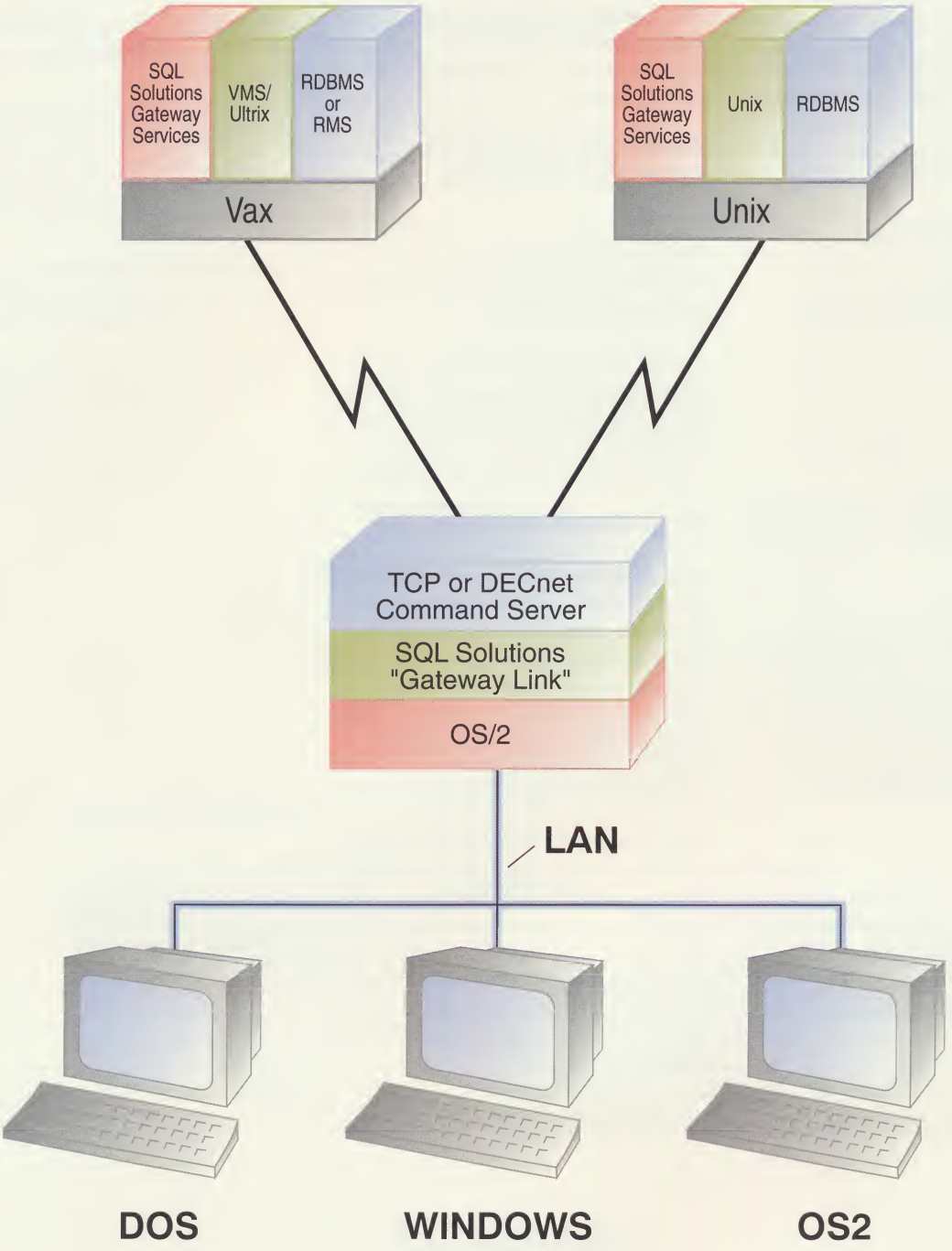
- SQL access to all supported relational databases from PCs on LANs.
- Gateway Services translate SQL extensions between supported SQL implementations.
- Client applications allow SELECT, INSERT, UPDATE, and DELETE from supported RDBMSs as though the data resided in an SQL Server environment.
- Programmable Remote Procedure Call (RPC) handling is supported to enable users to build customized RPCs. This enables a procedure or trigger to send an RPC to the gateway for execution, extending the services available from the database server.

Provides network connectivity between PC/LANs and Gateway Services on VAX or UNIX platforms

- Gateway Link resides on an OS/2 server and connects to Gateway Services on VAX and UNIX platforms.
- Named Pipes are used to communicate with PC clients.
- TCP/IP or DECnet is used to provide communications to the minicomputer system (VAX or UNIX).
- Support is provided for all the network environments supported by Microsoft SQL Server™, including Microsoft LAN Manager™, Novell® Netware®, and BANYAN™.
- Gateway Link avoids the cost and complexity of installing TCP/IP or DECnet networking support on all PC clients.
- Extensibility — the Gateway Link gives you access to all future Gateway Services enhancements on VAX and UNIX platforms.

Full Support for SQL

- An SQL "translation engine" is used to provide a full implementation of Transact-SQL for the supported data sources.
- The "translation engine" also supports powerful SQL Server features including Stored Procedures, Defaults, Data and Business Rules, Views, Local Variables, and Flow Control Commands.
- A full complement of SQL statements is provided, including Data Manipulation Language (DML), Data Control Language (DCL), and Data Definition Language (DDL).
- The Microsoft/Sybase Catalog Stored Procedures are supported on all gateways, enabling developers to access system catalog information in a consistent manner across all data sources.



- Standard Microsoft SQL Server API
- Interoperability Among Multiple RDBMSs
- PCs on LAN Can Share Corporate-level Data

Power Features

Gateways implement widely used SQL Server technology

- The underlying technology for minicomputer Gateways is the Sybase Open Server, which handles all the low-level networking functions (communications, protocol conversion, etc.) to provide connectivity for the major VAX and UNIX protocols (TCP/IP, DECnet, FPS).
- The Gateways build on top of Open Server to provide all the back-end specific functionality, including establishing login connections, conversion of underlying data-types, mapping of SQL extensions, and error message handling.

Gateway Link is a "gateway to Gateways"

- This software driven "gateway to Gateways" provides access to Gateways on the rest of the network.
- Our Gateway Link is written using the Microsoft Open Data Services, an implementation of Open Server which uses the multi-threading features of OS/2 to assure high performance and minimum response times for multiple users sharing a single Gateway Link server.

Gateway Link uses standard UNIX and VAX communications

- The Gateway Link uses the Named Pipes standard to communicate with PC clients, which may be running on any of the popular LANs that conform to the Named Pipe conventions.
- The Gateway Link server itself can use any of the available Sybase Net Libraries for OS/2 to access VAX and UNIX platforms.

Gateway Link permits data movement between PC/LANs and minicomputer or workstation databases on UNIX or VAX platforms

- Data moves bidirectionally between a PC application and any supported back-end data server under UNIX or VAX.
- Client-initiated data transfers between Gateway Services platforms and Microsoft SQL Server are executed at the server, so client workstation time is freed up and overall throughput is enhanced.
- Gateways feature Remote Stored Procedures support for pre-defined data transfer operations.

Gateway Link features easy installation, configuration, and administration

- Standard UNIX (TCP/IP) or VAX (DECnet) environment for Gateways
- Standard OS/2 server environment for the Gateway Link on the LAN

Achieving Higher Productivity

Meeting the need for interoperability among multiple databases

Relational database management systems (RDBMSs) have become the preeminent database architecture of the 1990s, and SQL serves as the common language for querying and manipulating data from these RDBMSs. Proprietary vendors have developed powerful RDBMS "engines," but each of their SQL implementations is different. The success of today's SQL programmers depends on high-performance SQL productivity tools that are RDBMS-independent, particularly because corporations increasingly have more than one RDBMS.

For years SQL Solutions has been providing our clients with a powerful suite of SQL productivity tools, which we offer as the SQL Productivity Environment (SPE). With SPE, SQL professionals are able to tackle the growing application backlog and reduce systems development and maintenance costs significantly. Gateway Services are a significant part of the SPE development environment, allowing access to multiple RDBMSs concurrently.

Providing greater flexibility for application developers

Using Gateway Services, developers can write applications that access multiple back-end data sources using a single client interface. They can concentrate on systems design and writing programs rather than worry about the acquisition and reformatting of data from disparate sources. To assist application developers in achieving higher productivity, there are many development tools available, including Easy SQR™ for Windows, Advanced Revelation™, DataEase™, Forest & Trees™, dBase™, InfoAlliance™, Object/View™, Visual Basic™ and others.

Maximizing management response

In today's business environment the ability to develop new applications quickly and efficiently can help corporations achieve a competitive advantage. At the same time, management is under pressure to hold down IS costs by taking advantage of PC computing platforms. Essential to the success of these new PC-centered applications is the ability to access shared data sources throughout the corporation, without regard for which platform contains the data. Gateway Services provide the interoperability between data sources that enables rapid response to problems and opportunities and facilitates application migration to low-cost platforms.

Benefits

Opens up PCs to a broad range of business applications

- Corporate information is now accessible to the PC, providing immediate access to ORACLE, INGRES, INFORMIX, Rdb, and SYBASE relational databases.
- Powerful and efficient client-server extensions to existing business applications are enabled.
- Resources are tapped providing cost/performance advantages of using powerful PCs instead of terminal-based systems for departmental computing.

Enables a phased migration strategy

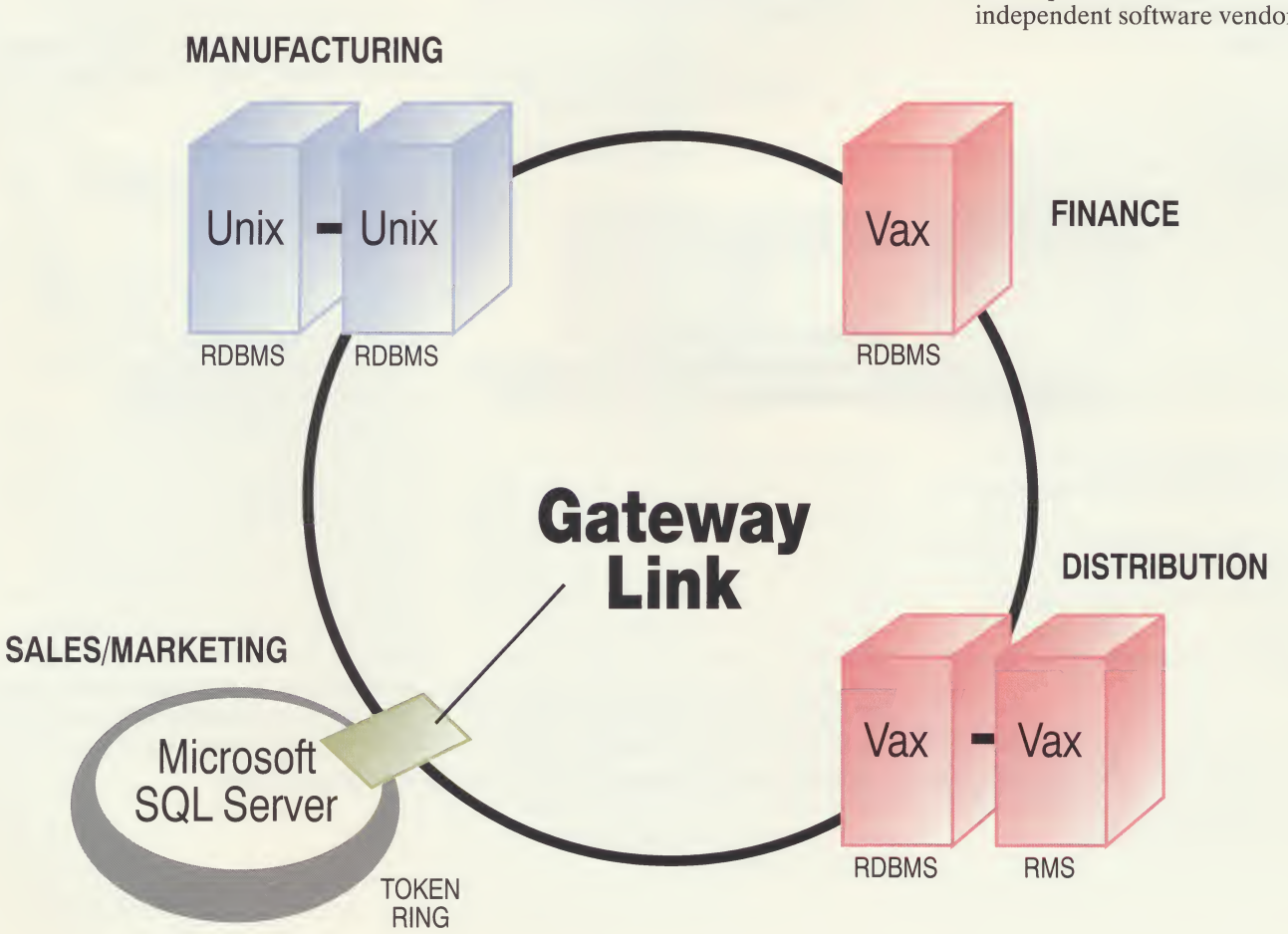
- Comprehensive corporate-wide applications can be built under a unified architecture while preserving legacy applications and data.
- Mission-critical applications may be brought up quickly and independent departmental systems may be phased out over time.
- SQL Server client applications can be connected to additional RDBMSs, enabling independent software vendors to provide users with more choices for development.

Supports a cooperative processing strategy

- Data and application investment can be preserved by providing gateway strategies among databases.
- Data from autonomous business units can be integrated easily into mission-critical applications requiring access to multiple departmental-level systems. Integrated client/server architecture permits "site autonomy" while providing on-line access to corporate level applications.

Allows knowledge workers to work more efficiently

- Data from across the enterprise is available at knowledge workers desktops.
- Higher productivity results from the increased availability of development tools from independent software vendors.



Configuration Requirements

Gateway Services operate on VMS, Unix and OS/2 platforms.

UNIX platform
SUNOS™ 4.0.3 and later
1/4" tape drive
1/2MB to 1MB of disk space
INGRES 5.x or 6.x
ORACLE 5.x or 6.x
SYBASE Open Server 1.0 or later

VAX platform
VMS 5.x or 6.x
TK50 or TK70 tape drive
700 to 1000 blocks of disk space
ULTRIX 6.0 or later
SYBASE Open Server 1.0 or later
Rdb
INGRES 5.x or 6.x
ORACLE 5.x or 6.x
SQL*NET® (for ORACLE Version 6)
RMS

OS/2 and LAN Requirements

Gateway Services operate on OS/2 compatible workstations. Net-library for OS/2 SQL Server is required as well as support for Named Pipes, such as Microsoft LAN Manager, IBM LAN Server™, Novell Netware or BANYAN Vines™. LAN Clients require DB-Library as well.

Documentation

The Gateway Services are supported with a complete set of user documentation for installation, set-up and operation.

Distribution/Availability/ Ordering Information

The Gateway Services, including the Gateway Link Component, are available from SQL Solutions and its authorized distributors.

Pricing and configuration information for Gateway Services can be obtained by calling SQL Solutions, Inc. at 1(800) 933-0044.

Support and Services

SQL Solutions protects your investment by offering a comprehensive support program. Our Support Services Program is staffed by quality technical support specialists who have the necessary RDBMS, operating system, communication, and networking expertise to quickly resolve configuration-related issues.

SQL Solutions' entry-level support package consists of full product documentation and telephone hotline support; software update rights are included. SQL Solutions offers premium support packages, which include 24-hour telephone hotline support and a range of consulting and training services.

* As used in this datasheet, "DOS" refers to the MS-DOS and PC-DOS operating systems, and "OS/2" refers to the operating system jointly developed by Microsoft and IBM.

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SQL Solutions, Inc.

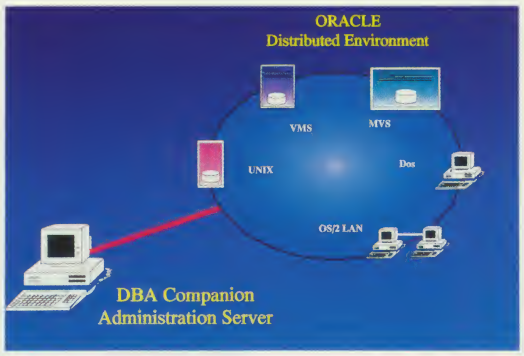
SQL Solutions

DBA Companion Environment®

Automating Database Administration for ORACLE™

Database Administrators (DBAs) have been wrestling for years with the problems of managing production databases in IBM mainframe environments. But DBAs in this arena have been fortunate in having at their fingertips a wealth of DBA productivity tools to solve these problems. DBAs now take for granted sophisticated productivity tools — such as application inventory tools, security management tools, database object analysis tools and capacity planning tools — to facilitate the management of traditional mainframe database environments.

Until recently, however, such DBA productivity tools were nonexistent for RDBMS environments. With the emergence of RDBMSs as the preeminent architecture for the storage and retrieval of corporate data, the need for such productivity tools has reached critical proportions. Corporations today are migrating record numbers of RDBMS applications out of testing and into production, and with this migration, the problems of managing dynamic production RDBMS environments — problems as costly and complex as those long since experienced in mainframe shops — are escalating. DBAs today face the mounting challenges of day-to-day database administration, forcing them to search for better ways to increase productivity and to effectively manage database growth.



SQL Solutions is intimately familiar with these challenges. Our flagship product line, the DBA Companion Environment, is designed specifically for DBAs, delivering mainframe productivity to the ORACLE RDBMS environment. DBA Companion is a portfolio of productivity tools enabling DBAs to effectively manage applications, users, security, source code, database objects and storage capacity in rapidly evolving ORACLE production environments.

The DBA Companion Environment

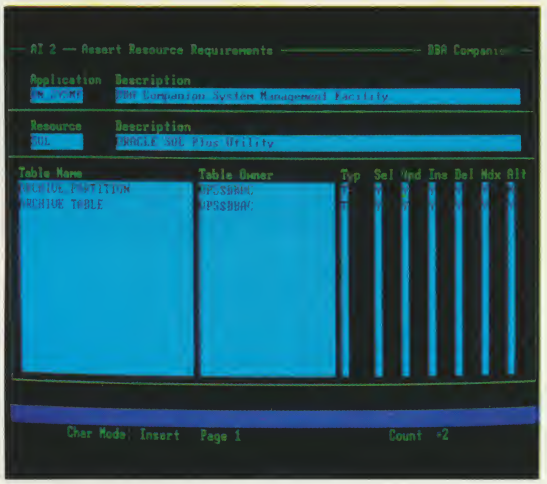
The DBA Companion Environment is composed of three separate products:

- **The Application Manager** — an application configuration control and security management facility.
- **The Database Analyzer** — an in-depth database object analysis and management facility.
- **The Resource Manager** — a robust storage management and capacity planning facility.

Application Manager

The Application Manager presents a controlled, screen-driven environment to automate the laborious and often error-prone tasks of application configuration control and security management.

Featuring sophisticated source code scanners, the Application Manager scans the source code files of your applications, extracting the specific table access requirements for each resource — screen, report, script and program — composing your ORACLE applications. The information is then loaded into an application repository for further analysis. The power of these scanners makes it possible to see the interrelationships between all source code modules and files. A complete cross-reference facility is available for each ORACLE object, allowing you to perform impact-of-change, where-used and application bill-of-material functions. For example, if you altered a table, the Application Manager would show you all the modules affected by the change.



At the heart of the Application Manager is the automation of database security. With the Application Manager, the DBA no longer has to manually grant specific access privileges to each user for each table — a tedious and error-prone process at best. The Application Manager fully automates the process by virtue of the scanner routines and by introducing the concept of "user classes." When new database users are created, the DBA simply assigns them to the appropriate user class, and the literally hundreds of GRANT statements required by the RDBMS are automatically issued, audited, managed and reported on. In addition, the Application Manager comes with a dynamic, privilege-dependent runtime menu system.

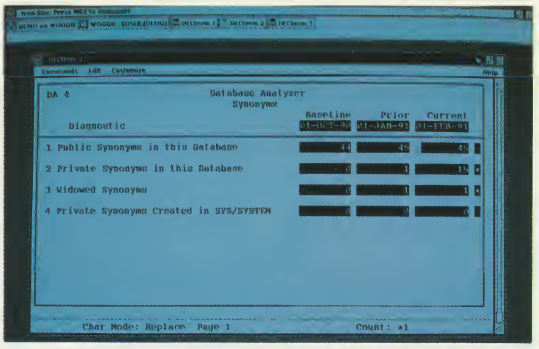
The Application Manager also solves the common ORACLE problem of users circumventing application code integrity constraints when they access ORACLE via SQL*Plus™. With the alternate account facility, users can no longer perform insert, update and delete operations through SQL*Plus.

Database Analyzer

The Database Analyzer offers in-depth analysis, exception reporting and automatic cleanup of virtually every database object in the RDBMS environment. Also known as the "Database Doctor," the Database Analyzer examines over 120 database objects and attributes to produce intuitive, easy-to-use exception reports and interactive screens that quickly identify anomalies in the database environment. Should problems be detected, such as a number of widowed synonyms or grants still residing in the database and occupying valuable storage space, the Database Analyzer will offer the option to remove them automatically from the database to ensure database object integrity and peak system performance.

The Database Analyzer examines every aspect of the ORACLE database environment. The product organizes ORACLE objects into nine major categories, presenting diagnostic information about each object in a succinct form that enables the DBA to quickly isolate problems and resolve them just as quickly. These categories are:

- Users
- Tables
- Views
- Clusters
- Indexes
- Grants
- Tablespaces
- Storage Space
- Other objects (such as the presence of other ORACLE products).



For each object, the DBA can access information at various levels of detail to gain further insight about a specific database problem area. For example, when alerted to a problem about widowed synonyms, the DBA can access a more detailed screen that lists the widowed synonyms by name and the tables that the synonyms originally referenced.

With the Database Analyzer, the DBA has control over the handling of exception criteria for all objects. The DBA can redefine the exception criteria at any time by setting tolerance levels for each diagnostic reported on. If, for example, the DBA wants to be alerted to widowed synonyms only when 10% or more of the synonyms in the database have become widowed, then the DBA will set this as a threshold value. The Database Analyzer will alert the DBA to the problem of widowed synonyms only when this criteria is met.

Resource Manager

The Resource Manager is the first storage management and capacity planning tool designed for the ORACLE RDBMS. With the Resource Manager, the DBA can now efficiently utilize storage resources, identify and correct fragmentation and chaining problems, ensure optimal database performance and plan for future database expansion by monitoring growth rates.

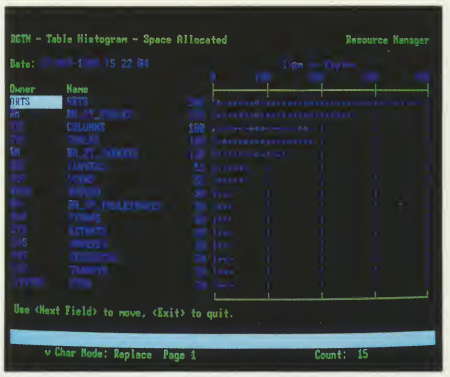
The Resource Manager contains four components — the Recorder, the Reporter, the Expert and the Assistant. Integrated within a pop-up window-style menu system, these components work in concert with the database storage objects — tables, tablespaces (partitions, with ORACLE Version 5), indexes, clusters, rollback segments and so forth — to provide a complete environment for space management and capacity planning.

The Recorder logs information about resource objects (tables, tablespaces, indexes, clusters, rollback segments) in your database, giving you immediate access to accurate space utilization information, both current and historical.

The Reporter generates a variety of online or batch reports based on the information stored by the Recorder and plots this information in presentation format. The reports generated include statistics, totals, histograms and trend analysis reports.

The Expert transfers the knowledge and expertise of leading RDBMS consultants into a powerful storage optimization tool. Utilizing information stored by the Recorder, the Expert easily locates anomalies in the storage architecture, such as which tables are candidates for striping, which indexes are redundant, which clusters are highly fragmented, which rollback segments are nearing MAXEXTENTS and so forth.

The Assistant automates the process of resizing ORACLE objects. It eliminates the tedium and guesswork associated with calculating and applying accurate space definitions and storage clauses to all objects. In addition, the Assistant performs many tasks essential to maintaining an efficient database, such as moving objects from one tablespace to another, dropping and renaming objects and eliminating both table and database fragmentation.



SQL Solutions

SQL Solutions is the leading SQL Systems Integrator, specializing in SQL Integration services and SQL productivty tools for the client /server environment. We offer a suite of multi-RDBMS productivity tools, collectively the SQL Productivity Environment (SPE), to assist SQL professionals — system designers, SQL programmers, database administrators and systems administrators — through the entire SQL Application Lifecycle.

SQL Solutions delivers the most comprehensive range of SQL Integration services in the industry. Our methodology — RISE, Relationally Integrated Systems Engineering — is a compendium of tools, techniques and services for assisting customers in re-engineering business processes and in designing and implementing distributed, interoperable systems. In order to accomplish this, SQL Solutions has developed expertise spanning multiple technologies — databases, networks, communication protocols, operating systems, CASE and data acquisition.

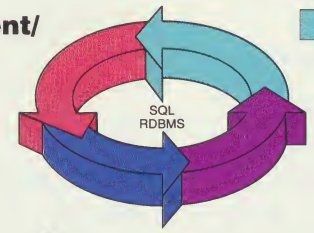
SQL Productivity Environment

Design/Analysis

- Deft

Application Development/ Debugging

- SQL◆Advantage
- SQL◆Debug
- SQR Family
- Gateway Services



Operational Control

- DBA Companion Environment
- SA Companion

Testing/Tuning

- TOP*PL/SQL Converter
- Performance Accelerator
- SQL◆Batch

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SQL Solutions, Inc.

SQL◆Advantage™

SQL◆ Advantage is the first programmer productivity environment designed specifically for SQL developers. Centered around a native editor, SQL◆ Advantage provides direct access to the database, extensive code checking and debugging facilities, and comprehensive, context-sensitive help. With SQL◆ Advantage, developers can now write SQL code faster than ever before.

For years, SQL developers have been struggling with the inefficiencies of SQL as a database access and programming language. With the advent of powerful procedural extensions to native SQL implementations, the problems of SQL developers have shifted dramatically. Today, SQL developers spend more time struggling with the inefficiencies of the development environment rather than optimizing their SQL code.

Consider a typical scenario: You first invoke an editor and create a file containing your SQL source code. If you are looking for information about the database schema, you exit the editor to query system tables.Then you must re-enter the editor to continue writing code. Satisfied, you once again exit the editor and submit your file to the database, only to find out that it contains errors. Of course, you must return to the editor again where you spend even more time writing and rewriting your code, frequently exiting the editor to test and debug, until you develop a procedure that executes error-free.

With SQL◆ Advantage, you needn't struggle with this tedious process any longer. Use the editor of your choice (EVE/TPU™, VI, EMACS, Brief™ or our own intuitive editor) to create your source file. Push a button and SQL◆ Advantage executes your SQL file, automatically splitting the screen into two windows - one to display your code and the other to display the results. While debugging a complex SQL statement, you can even highlight part of a query and submit it directly to the database. If your procedure has failed, SQL◆ Advantage shows you the exact location of syntax or coding errors, allowing you to correct them immediately.

At any time during the session, you can press the context-sensitive help key and SQL◆ Advantage gives you a wealth of information about the database schema, contents of stored procedures, SQL syntax or perhaps editor features - all without ever leaving the edit environment. Further, SQL◆ Advantage lets you highlight and cut help text from a help window - such as a table or column name from the database - and paste it directly into your code.

SQL◆ Advantage Components

SQL◆ Advantage V1.0 features two components: SQL◆ Edit (or SQL◆ Edit/TPU) and the SQL◆ Code Checker.

SQL◆ Edit is an editing environment familiar to programmers, but tailored to meet the challenges unique to SQL development. On the Sun™ and VAX™, the editor can emulate EMACS, VI or Brief. On the VAX, an EVE/TPU-based editor is also provided.

SQL◆ Code Checker offers comprehensive error checking of your SQL code.

Features and Benefits

SQL• EDIT and SQL• EDIT/TPU

- Immediate execution of SQL code without leaving the editor environment.
- Direct access to the SQL• Code Checker to detect errors and pinpoint coding anomalies before they cause problems in the database.
- Online, context-sensitive help for the database schema, SQL syntax, library functions, editor commands and RDBMS vendor documentation.
- Familiar editor environments reduce programmer learning curve.
- Fully configurable to meet your coding standards and preferences.

SQL• CODE CHECKER

- Complete syntax checking based on Sybase Transact-SQL™.
- Object reference and definition checking ensure that your code refers to database objects correctly.
- Allows file checking on a stand-alone basis or in the larger context of the entire database environment.
- Detection of unusual or unrecommended coding practices, such as defining a label or variable without referring to it later, or the use of the string "NULL", instead of the null value (NULL).

SQL Solutions

We are a software development and professional services firm specializing in RDBMS-independent productivity tools for each critical phase of the SQL application lifecycle.

Additionally, we provide information architecture consulting, custom application development services, database design and SQL training seminars, performance analysis and tuning, and CASE consulting.

Some Clients

John Hancock
Fidelity Investments
Liberty Mutual
TRW
GTE
Mobil Oil
PepsiCo
Microsoft
Johnson & Johnson
CAMEX
Westinghouse
Union Carbide
Martin Marietta
U.S. Navy
Shearson-Lehman
SUN Microsystems
Mitre
Planning Research Corporation
General Electric
Harvard Community Health Plan

For additional information call:
(617) 270-4150 or 1(800) 933-0044
Fax: (617) 270-4158

SQL Solutions, Inc.

SA Companion™

SA Companion is the first operational control environment to meet the productivity demands of Sybase System Administrators. Fully integrated, SA Companion aids System Administrators in managing complex SQL Server™ networks - often configured with an array of servers, devices, databases and users - that dynamically change as the information enterprise evolves.

SA Companion's intuitive window-driven interface permits System Administrators, even those new to the role, to expertly manage large SQL Server environments with little to no training. With SA Companion, you can configure and control multiple SQL Servers without learning or recalling SYBASE™-specific syntax for dozens of SQL commands and system procedure calls. Via full-screen displays, you can quickly examine the internal structure of the SQL Servers in your environment. SA Companion also provides tools to manage storage capacity for servers and databases, offers extensive on-line help, and lets you submit SQL code directly to the SQL Server from the SA Companion menu.

SA Companion organizes the primary functions of Sybase system administration into the following categories, each accessible from the main SA Companion menu: SQL Server Management, Device Management, User Management, Database Management and Reporting.

SQL Server Management
The SQL Server Management menu displays the names of all available SQL Servers, lets you establish a server connection, easily install a new server, configure (via parameter modification) a SQL Server and examine any SQL Server errorlog file.

Additionally, SA Companion creates data definition language (DDL) scripts that can be used to recreate the entire SQL Server configuration.

Device Management
The Device Management menu displays all devices known to the selected SQL Server, lets you add or drop database and dump devices from the system, and generate mirror copies of database devices.

User Management
The User Management menu displays the user names known to the selected SQL Server, lets you add or delete a user (and delete any objects associated with the user), and modify a user's default database or password.

Database Management
The Database Management menu lists databases, users, groups, segments, permissions and database objects. You can create or delete databases and objects, add or delete database users and groups, modify database options, permissions and attributes, and estimate the disk space requirements for database tables.

Additionally, SA Companion generates DDL scripts to recreate an existing database or individual portions of a database (tables, views, indexes, stored procedures, rules, triggers, and so forth).

Reporting

SA Companion includes a parameter-driven report generator. Available reports cover space utilization, users, server logins, user objects, database objects and groups.

Features and Benefits

- Window-driven interface to SQL Server management automates tedious, often error-prone tasks.
- Complete management control over SQL Server environment, including servers, devices, users, databases and storage capacity.
- Automatically generates DDL scripts to recreate entire SQL Server and database configuration.
- Intuitive approach to system administration accelerates learning curve.
- Includes a report generator with several parameter-driven default reports.
- Submit SQL code directly to the SQL Server.

SQL Solutions

We are a software development and professional services firm specializing in RDBMS-independent productivity tools for each critical phase of the SQL application lifecycle.

Additionally, we provide information architecture consulting, custom application development services, database design and SQL training seminars, performance analysis and tuning, and CASE consulting.

Some Clients

John Hancock
Fidelity Investments
Liberty Mutual
TRW
GTE
Mobil Oil
PepsiCo
Microsoft
Johnson & Johnson
CAMEX
Westinghouse
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Shearson-Lehman
SUN Microsystems
Mitre
Planning Research Corporation
General Electric
Harvard Community Health Plan

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SQL Solutions

The SQR® Family

A Comprehensive Suite of Multi-RDBMS Reporting Tools

The rise of relational database management systems (RDBMSs) introduced a new standard in productivity for application developers that offers significant productivity gains over traditional 3GL development environments. SQL as a data access language introduced an entirely new set of productivity challenges for application developers — SQL programmers have been forced to sacrifice the precision and control of 3GLs because of the inefficiencies of nonprocedural SQL.

For SQL professionals, the imprecision of SQL is a constant source of frustration and translates directly into higher development and maintenance costs. This problem is particularly acute in the area of production reporting where critical business decisions are based on access to timely and accurate information.

The SQR Family is the first suite of multi-RDBMS reporting tools designed with SQL in mind. The SQR Family provides seamless queries, report generation and a complex programming environment to satisfy the business and productivity demands of both novice end users and professional SQL programmers. Composed of two complementary products — the SQR Toolkit and Easy SQR — the SQR Family delivers the full range of SQL reporting requirements, from ad hoc queries through sophisticated production reports that use procedural programming techniques and require automated documentation and debugging tools. The SQR Family has been used effectively for years in several RDBMS environments, including ORACLE®, SYBASE®, Rdb™, INGRES™, INFORMIX®and DB2®, and runs on most vendor-supported hardware platforms and operating systems.

The SQR Family

The SQR Family comprises two separate products:

- **SQR Toolkit** features two components — SQR® and the SQR◆Developer's Kit™. SQR is a procedural 4GL report writer and programming tool for serious SQL programmers and is bundled with the SQR◆ Developer's Kit, an add-on suite of documentation and debugging tools for SQR.
- **Easy SQR**™ is a window-driven ad hoc query and report generator designed for novice end users and SQR programmers alike. Easy SQR for Windows™ is also available under Windows 3.0.

SQR Toolkit

For serious SQL programmers, the SQR Toolkit is a complete report writing solution for developing and debugging sophisticated production reports. The SQR Toolkit bundles the SQR and the SQR◆Developer's Kit products.

SQR

SQR, Structured Query Report Writer, is the industry-standard 4GL report writer and programming tool for the multi-RDBMS market. SQR lets you combine the benefits of nonprocedural SQL with the grace of a procedural programming language. SQR supports

the full complement of SQL commands, including all DML, DDL and DCL operations. But SQR's particular strength is its unique "Select Paragraph" structure that lets you combine SQL queries with procedural commands. With SQR, a programmer can build complex report procedures that execute subsidiary SQL statements conditionally, implementing either nested or hierarchical program logic. An SQR program can also execute multiple queries simultaneously.

```
Begin-Procedure Main
Begin-Select
flight_num                  (,1,4)          Edit 9999
orig                        (,+2)
    Print 'to'              (,+1)
dest                        (,+1)
eta
    If $curr_time <= &eta
        Print 'ON TIME'     (,70)
    Else
        Print 'DELAYED'     (,70)
    End_If
aircraft_type               (+1,1)
aircraft_home               (+1,1)
From flight, aircraft
Where flight . aircraft_num = aircraft . aircraft_num
AND etd >= $today
Order By flight . flight_num
End-Select
End-procedure
```

SQR offers many other advanced report writing and application development capabilities. These include:

- parameter passing for the creation of more modular applications;
- dynamic query modification — utilizing variables — which allows users to qualify SQL statements and table names at runtime;
- allowing users to import/export to/from other applications or to execute 3GL programs;
- multidimensional arrays to support complex reports and applications;
- callable SQR library for integration of SQR programs with third-party programs, such as Microsoft Windows and ORACLE SQL*Forms;
- in-memory table lookups to increase performance of table searches;
- execution of reports in either source code or executable form;
- precompiled queries, complex expressions, global and local variable support, and a full range of procedural commands such as IF-THEN-ELSE, DO WHILE, EVALUATE and more.

SQR runs with a single-step invocation — there is no need to precompile, compile, or link programs. If an error occurs at run time, SQR will display the error including the source line and the line number where it occurred. What's more, SQR programs can be any size and can contain any number of queries, columns and variables. SQR even offers a runtime package, allowing you to run preprocessed programs that execute immediately.

SQL Solutions guarantees you can write any report with SQR — in half the time and with half the number of lines of code of any 3GL.

SQR*Developer's Kit

Thousands of programmers use SQR today to develop sophisticated SQR procedures for every major RDBMS environment. Given the power of SQR, programmers are now demanding even greater productivity, particularly in the area of debugging. This is why SQL Solutions developed the SQR*Developer's Kit — the first productivity environment for analyzing and debugging SQR code.

The SQR*Developer's Kit is composed of three productivity tools: TRACE, which provides variable and procedure call tracing; X-REF, which provides a cross-reference facility for variables; and HIERARCH, which displays the SQR program structure. Armed with these tools, an SQR programmer can now document, maintain, and debug SQR procedures, even those previously developed by another programmer, in record time and with minimal effort.

TRACE. TRACE scans an entire SQR program for variables and their values. A programmer can rapidly isolate errors by using TRACE to selectively enable or disable groups of procedures or variables. TRACE can also indicate the sequence of events in the program because it tracks procedure calls by identifying entry and exit points of a procedure. Additionally, TRACE produces timing statistics that assist SQR programmers in performance-tuning procedures.

X-REF. X-REF supplies the SQR programmer with a complete cross-reference of all variables — including program location (line numbers), variable type (global or local), and number of occurences (if found only once the variable is a typical candidate for misspelled or mistyped variables).

X-REF also produces a table cross-reference list, indicating the tables accessed through a program with their associated procedure name and program line number.

HIERARCH. With HIERARCH, a programmer can determine the precise program structure of an SQR program quickly and efficiently. HIERARCH displays the program structure formatted in terms of the hierarchical dependencies of each procedure call. The number of times each procedure is called is also reported.

Easy SQR

Easy SQR is an easy yet powerful query builder and 4GL report writer that enables casual and nontechnical users to create the complete range of formated reports without having to write a single line of SQR or SQL code.

Featuring a window-driven interface, Easy SQR combines simplicity with exceptional power to produce the quality reports every business needs — from simple tabular reports to sophisticated production reports that support nested queries and computed fields.

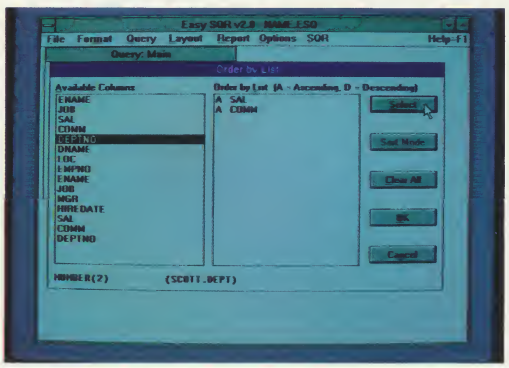
Easy SQR provides several default report formats, including tabular reports, form letters, mailing labels, master-detail and data export formats. Headers and footers containing multiple lines of text can be created . The user has the flexibility to position report output anywhere on the page. A full-screen WYSIWYG editor allows the user to refine the layout of the report directly on the screen.

Although it is easy to use, Easy SQR is even easier to learn. Using point and select menus, a user can view all tables and columns in the database without having to learn the necessary SQL operations. Whether users want to display data from a single table or to join multiple tables, within minutes they can learn to create an SQL query. Full help screens are available for all functions. Finished reports can be saved in an Easy SQR session or as an SQR program at any time for subsequent use. A report can be rerun and modified easily whenever necessary.

Easy SQR is by no means limited to trivial reports. Easy SQR generates modifiable SQR code. SQR programmers often use Easy SQR as a prototyping tool to build the template of a report that can then be modified and enhanced with SQR. Easy SQR also supports complex queries, multiple queries tied by "parent-child" relationships, or nested queries. This combination of nested and hierarchical relationships between queries is one of the most powerful features of the original SQR product.

Easy SQR for Windows

Easy SQR for Windows is a full implementation of Easy SQR running under native windows. You can have all the functionality of Easy SQR combined with the ease of use of the windows environment.



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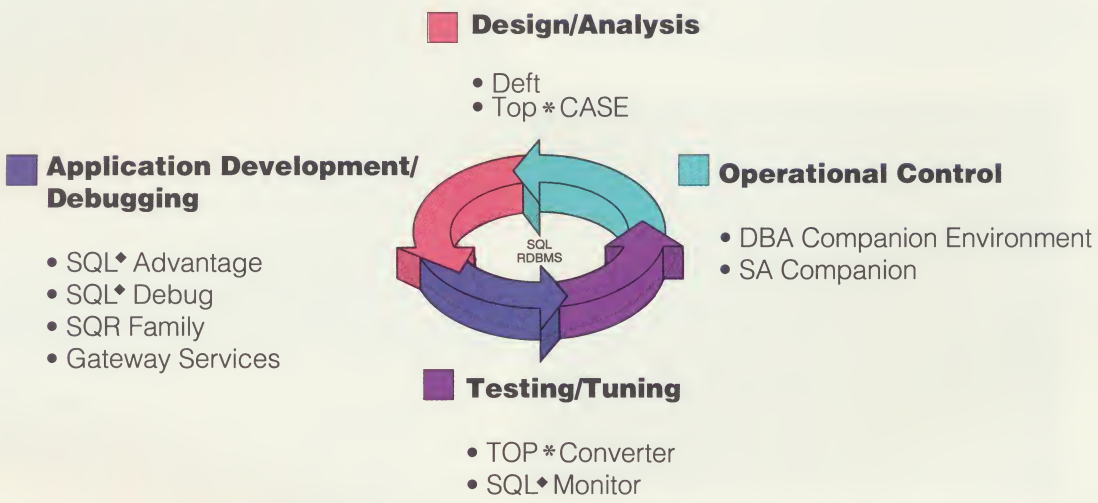
SQL Solutions delivers the most comprehensive range of integration services in the industry. We offer services for business analysis, modeling and information requirements analysis, systems planning, application design and development, performance tuning, system administration, and a broad curriculum of training courses.

SQL Productivity Environment

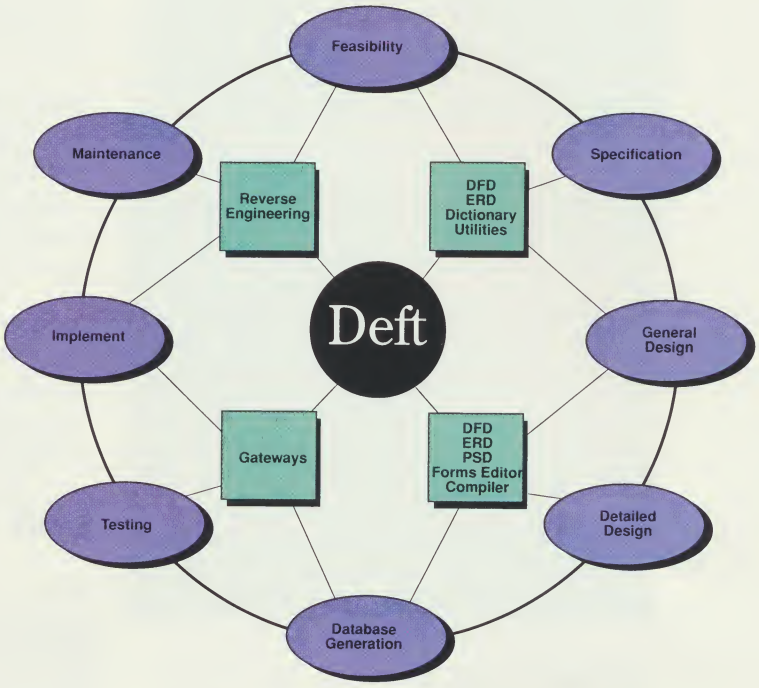


SQL Solutions
8 New England Executive Park, Burlington, MA 01803
(617) 270-4150 or 1 (800) 933-0044, Fax: (617) 270-4158

SQL Solutions

Deft®

The Multi-RDBMS CASE Solution



Deft is the industry-leading RDBMS CASE solution for Macintosh, VMS and Unix environments. Deft offers unparalleled ease of use, complete RDBMS integration with both forward and reverse engineering of form definitions and schemas between all major RDBMSs, and presentation-quality system documentation and reporting.

Ease of Use

No other CASE product is as easy to learn or to use as Deft. Deft's intuitive Macintosh interface lets you start right in designing robust systems even before you have finished reading the manual. Equally important is Deft's flexibility. Deft accommodates a broad range of user expertise and supports the methodology standards of Chen/ Bachman, Martin, IRM, Yourdon, Gane and Sarson, all of which are fully interchangeable.

RDBMS Integration

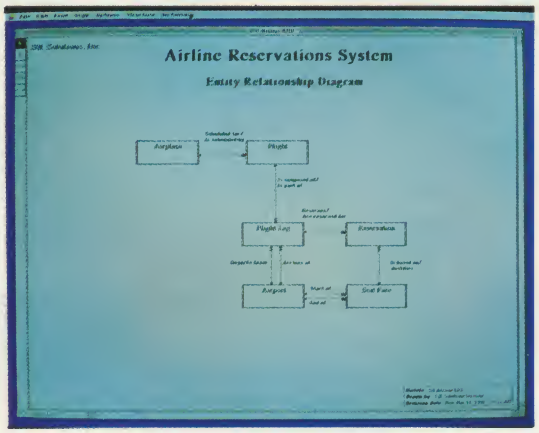
Deft provides true integration with every strategic relational database management system (RDBMS), including SYBASE™, ORACLE™, INGRES™, Rdb™, Informix™ and DB2™, resulting in complete relational systems portability and significantly reduced maintenance costs. With its powerful forward and reverse engineering capability, Deft automatically generates an RDBMS-specific schema and form definition from Deft design documents, allowing you to reverse engineer forms and data definitions back to Deft design documents. You then can forward engineer the design documents into another RDBMS-specific schema. In this fashion, you can forward and reverse engineer systems between different RDBMSs with a click of the mouse.

Presentation-Quality Reporting and System Documentation

Presentation-quality reporting and system documentation are distinguishing features of Deft. Deft automatically formats high-resolution diagrams and sophisticated reports through desktop publishing software on the Macintosh. Complete font and style support is available with your choice of Macintosh products.

Deft Editors

Deft consists of a suite of four dictionary-driven editors — the ERD Editor, the DFD Editor, the PSD Editor and the Forms Editor — that share a central data dictionary to ensure consistency of definitions and complete cross-referencing. Fully functional in a multiuser environment, Deft maintains integrity by supporting row-level locking under your network.



The ERD Editor. The ERD Editor draws Entity Relationship Diagrams (ERDs) that express the static relationships between data entities within the system. A choice of relational symbologies is available: Chen/ Bachman, Martin or IRM.

The DFD Editor. The DFD Editor draws Data Flow Diagrams (DFDs) that express the dynamics of data within various parts of the system under design. The methodologies of Gane & Sarson and Yourdon are both supported.

The PSD Editor. The PSD Editor draws Program Structure Diagrams (PSDs) according to the Jackson methodology. PSDs model the partitioning of programs into modules to illustrate their hierarchy, organization and communication.

The Forms Editor. The Forms Editor automatically generates data entry/retrieval screens and produces hardcopy reports using data from the Deft data dictionary as defined in an ERD model of your system.

Deft Compiler

Deft offers a Design Compiler utility that compiles all the components of your system design — ERDs, DFDs, PSDs and Forms — to produce a single object file containing, in a special format, the database schema and screen layouts of your proposed system. Any inconsistencies within or between the individual components are detected and reported in an error listing.

Deft Gateways

Deft's Gateways are composed of two parts: one application runs on the Macintosh and the other runs on the target host computer where the target RDBMS resides. The Macintosh component uploads the design object file to the host computer; on the host side, the Gateway generates a relational database schema and form definitions from the object file for use on the resident RDBMS.

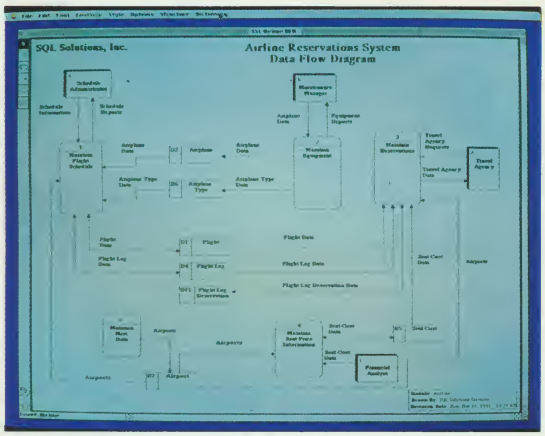
In addition, Deft's Gateways provide the Deft Code Management System (DCMS) and Deft Module Management System (DMMS) to assist in project management control of both documents and code on the host throughout the entire Systems Development Lifecycle. These tools provide automatic compilation and linking, as well as version control facilities, comparable to Digital's CMS and MMS or Unix's SCCS and MAKE facilities.

Deft Benefits

- **Rapid Learning**
  Deft's intuitive Macintosh interface means that a systems designer with a knowledge of data modeling and structured methodology can be productive immediately.

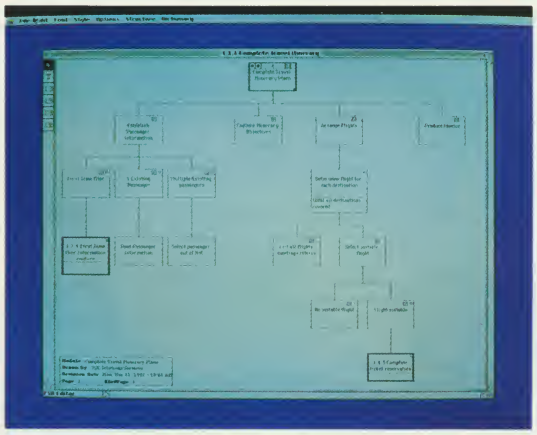
- **Rapid Prototyping**
  Deft's automatic schema and forms generation facilities reduce the typically lengthy modeling and implementation cycles by eliminating iterative reworking exercises common during the design and prototyping phases.

- **Reduced Development and Maintenance Costs**
  With its reverse engineering capability combined with the storage of all data and diagrams in a readily-accessible form, Deft eliminates the drudgery and high costs of performing repetitive manual tasks.



- **Error Reduction**
  Deft's integrated data dictionary ensures consistency and cross-referenceability throughout all four editors. Deft audits the editor currently being used and ensures that any changes made are automatically updated in other diagrams referencing the same objects.

- **RDBMS Independence**
  Deft allows a generic design to support any of the major RDBMSs, including SYBASE, ORACLE, Rdb, INGRES, Informix and DB2. Deft fully supports the various data and object types for each RDBMS.



- **Forward and Reverse Engineering**
  To ensure relational systems portability, Deft's re-engineering capabilities allow you to forward and reverse engineer systems between RDBMSs with a click of the mouse.

- **Methodology Independence**
  Deft supports the industry-standard methodologies of Chen/Bachman, Martin, IRM, Gane & Sarson, Yourdon and Jackson, which are fully interchangeable.

- **Complete Project Management Control**
  Deft's multi-user support enforces project management control throughout the complete systems development lifecycle.

- **Presentation-Quality Reporting and Documentation**
  Deft automatically formats high-resolution diagrams and sophisticated reports through desktop publishing software on the Macintosh. In addition to supporting Macintosh fonts and styles, Deft offers several layout and word processor options, allowing output to be formatted for use in desktop publishing applications.

- **Enhanced Graphics**
  Deft extends the power and clarity of the Macintosh by allowing diagrams to be tailored to a customer's particular format requirements and standards.

SQL Solutions

SQL Solutions is the leading SQL Systems Integrator, specializing in SQL Integration services and SQL productivty tools for the client /server environment. We offer a suite of multi-RDBMS productivity tools, collectively the SQL Productivity Environment (SPE), to assist SQL professionals — system designers, SQL programmers, database administrators and systems administrators — through the entire SQL Application Lifecycle.

SQL Solutions delivers the most comprehensive range of SQL Integration services in the industry. Our methodology — RISE, Relationally Integrated Systems Engineering — is a compendium of tools, techniques and services for assisting customers in re-engineering business processes and in designing and implementing distributed, interoperable systems. In order to accomplish this, SQL Solutions has developed expertise spanning multiple technologies — databases, networks, communication protocols, operating systems, CASE and data acquisition.

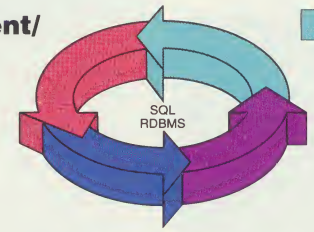
SQL Productivity Environment

Design/Analysis

- Deft

Application Development/ Debugging

- SQL◆Advantage
- SQL◆Debug
- SQR Family
- Gateway Services



Operational Control

- DBA Companion Environment
- SA Companion

Testing/Tuning

- TOP*PL/SQL Converter
- Performance Accelerator
- SQL◆Batch

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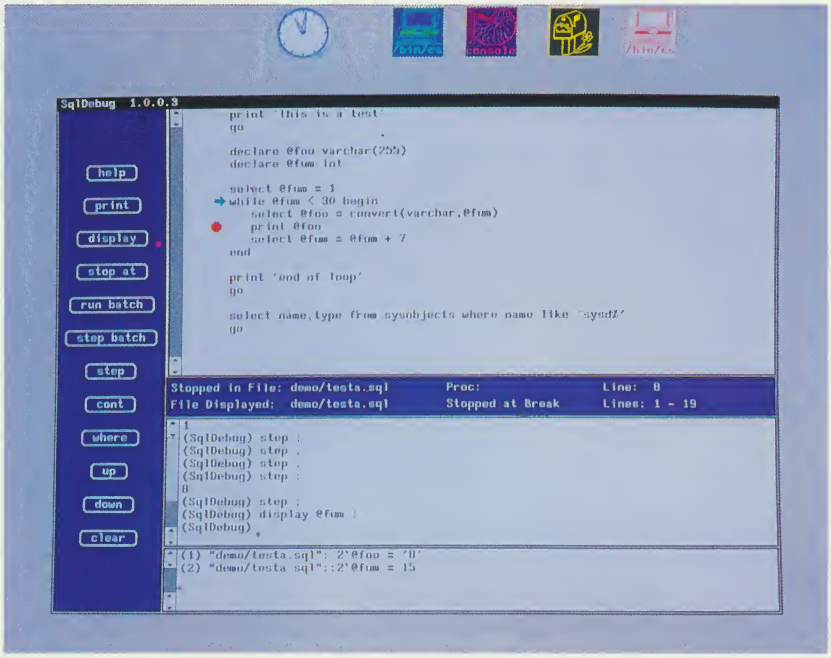
SQL Solutions

SQL◆Debug

The First Interactive Source-Level Debugger for SQL



SQL◆Debug is the first interactive source-level debugger for Transact-SQL. SQL◆Debug applies 3GL debugging technology to assist SQL developers in identifying and correcting logic and performance problems in their SQL code early in the development process.

SQL◆Debug offers step-level execution, breakpoint setting, conditional tracing and complete variable examination and control to identify logic and naming bugs that frequently creep into SQL code.

To identify performance bottlenecks, SQL◆Debug captures execution time statistics for SQL statements. SQL◆Debug tracks the frequency with which a SQL statement is invoked to ensure that all logic threads in your code have been thoroughly exercised.

Finally, SQL◆Debug provides optimization plan analysis and offers automated transaction control in the client/server environment.

Debugger Features

- Step-Level Execution
- Breakpoint Setting
- Conditional Tracing
- Variable Examination and Control
- Stack Content Viewing
- Client/Server Debugger
- Graphical User Interface
- Full Integration with SQL◆Advantage

Performance Features

- Captures Execution Statistics
- Tracks SQL Statement Invocation
- Provides Optimization Plan Analysis

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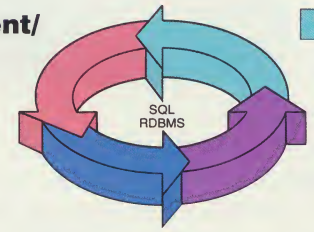

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